VOLUME III

CORRECTIVE ACTION

Facility Investigation

J. Background Reports and Studies

1) Report: Landfill Investigation for Rohm and Haas, Bristol, Pennsylvania, prepared by BCM Easternm, Inc., 04/84. P. 1-438. A topographic map of the landfill is attached.

2) Letter to Mr. Walter H. Graham, U.S. EPA, from Mr. Richard J. Grzywinski, BCM Eastern, Inc., re: Transmittal of the Laboratory Quality Assurance/Quality Control Program Report, 06/12/84. P. 439-478. The report and a memorandum regarding the review of the report are attached.

3) Report: Executive Summary Landfill Investigation Reports, Rohm and Haas Company, Bristol, Pennsylvania, prepared by BCM Eastern, Inc., 02/85. P. 479-516.

4) Report: Final Report on Landfill Water Resampling, prepared by BCM Eastern, Inc., 02/85. P. 517-921.

ROHM AND HAAS DELAWARE VALLEY INC.
CORRECTIVE ACTION/Facility Investigation
Background Reports and Studies

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REPORT ON

LANDFILL INVESTIGATION

PREPARED FOR

ROHM AND HAAS COMPANY
BRISTOL, PENNSYLVANIA

APRIL 16, 1984

APPROVED BY:

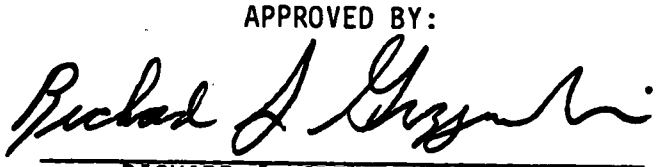

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TABLE OF CONTENTS

		Page
1.0	EXECUTIVE SUMMARY	1-1
1.1	Overview of the Project	1-1
1.2	Description of the Landfill	1-1
1.3	Water Quality Assessment	1-2
1.3.1	Approach	1-2
1.3.2	Principal Analytical Findings	1-3
1.3.3	Conclusions	1-3
1.4	Soil Quality Assessment	1-4
1.4.1	Approach	1-4
1.4.2	Principal Analytical Findings	1-4
1.4.3	Conclusions	1-5
1.5	Air Quality Assessment	1-5
1.5.1	Approach	1-5
1.5.2	Principal Analytical Findings	1-6
1.5.3	Conclusions	1-6
2.0	DESCRIPTION OF THE STUDY AREA	2-1
2.1	General	2-1
2.1.1	Background and Location	2-1
2.1.2	Landfill Dimensions	2-1
2.1.3	Surface Features	2-3
2.1.3.1	Topography	2-3
2.1.3.2	Vegetation	2-3
2.1.3.3	Adjacent Land Use	2-4
2.2	Geology	2-4
2.2.1	Regional	2-4
2.2.2	Study Area	2-5
2.2.2.1	Unconsolidated Geologic Units	2-5
2.2.2.2	Bedrock	2-6

000002

BCM

TABLE OF CONTENTS (Continued)

		Page
2.3	Hydrogeology	2-6
2.3.1	Regional	2-6
2.3.2	Study Area	2-7
2.3.2.1	Groundwater	2-7
2.3.2.2	Groundwater Flow Direction	2-7
2.3.2.3	Groundwater Flow Rates	2-9
2.3.2.4	Annual Groundwater Discharge Volume	2-9
2.4	Surface Water Hydrology	2-10
2.4.1	Surface Water Drainage	2-10
2.4.2	Surface Water Bodies	2-10
2.5	Soils	2-13
2.6	Air Basin	2-13
3.0	ENVIRONMENTAL SAMPLING PROGRAM	3-1
3.1	General	3-1
3.2	Groundwater Monitoring Wells	3-2
3.2.1	Well Installation	3-2
3.2.2	Sampling Protocol	3-2
3.2.3	Analytical Parameters	3-7
3.2.4	Existing Water Supply Wells	3-11
3.3	Surface Water and Sediments	3-11
3.3.1	Sampling Locations and Protocol	3-11
3.3.2	Analytical Parameters	3-13
3.4	Soils	3-13
3.4.1	Sampling Locations and Protocol	3-13
3.4.2	Analytical Parameters	3-17
3.5	Air Quality	3-17
3.5.1	Test Locations and Sampling Protocol	3-17
3.5.2	Analytical Parameters	3-17

000003

BCM

TABLE OF CONTENTS (Continued)

	Page
4.0 INVESTIGATION FINDINGS	4-1
4.1 Groundwater Quality	4-1
4.1.1 Review of Groundwater Quality Data	4-1
4.1.2 Zones A-1, A-4, and P-2 - Groundwater Quality	4-10
4.1.3 Zone A-2 - Groundwater Quality Assessment	4-12
4.1.4 Zone A-3 - Groundwater Quality	4-12
4.1.5 Zone B - Groundwater Quality	4-15
4.1.6 Zone C - Groundwater Quality	4-15
4.1.7 Zone D - Groundwater Quality	4-17
4.1.8 Zone P-1 - Groundwater Quality	4-21
4.1.9 Zone P-2 - Groundwater Quality	4-21
4.1.10 Zone P-3 - Groundwater Quality	4-21
4.1.11 Zone P-4 - Groundwater Quality	4-24
4.1.12 Zone P-5 - Groundwater Quality	4-24
4.2 Surface Water Quality	4-26
4.2.1 Hog Run Creek	4-27
4.2.2 Delaware River	4-29
4.3 Soil Conditions	4-31
4.4 Air Quality Impacts	4-34
4.4.1 Grid Sampling Program	4-34
4.4.2 Permanent Perimeter Air Sampling	4-38
4.4.3 TAGA System Testing	4-38
5.0 ENVIRONMENTAL ASSESSMENT	
5.1 Water Quality	5-1
5.1.1 General	5-1
5.1.2 Ammonia	5-1
5.1.2.1 Ammonia Oxygen Demand	5-2
5.1.2.2 Aquatic Toxicity of Ammonia	5-2
5.1.3 Other Inorganic	5-4
5.1.4 Oxygen Demand	5-5
5.1.5 Other Organic Compounds	5-5
5.2 Soil Conditions	5-7
5.3 Air Quality	5-8

000004

BCM

FIGURES

Figure 1-1 Study Area Map

Figure 2-1 Location of Landfill Study Area
Figure 2-2 Study Area Map
Figure 2-3 Study Sub-areas
Figure 2-4 Topographic Map (in pocket in back of report)
Figure 2-5 Adjacent Land Use
Figure 2-6 Bedrock Surface Contour Map
Figure 2-7 Groundwater Contour Map
Figure 2-8 Geologic Profile
Figure 2-9 Soil Map

Figure 3-1 Monitoring Well Location Map
Figure 3-2 Typical Monitoring Well Profile
Figure 3-3 Surface Water, Seep, Sediment, and Soil Sampling Locations
Figure 3-4 Bristol Township Sewage Treatment Plant Soil/Soil Boring/ Waste Sampling Program
Figure 3-5 Permanent Perimeter Air Sampling Locations
Figure 3-6 TAGA Grid Sampling Locations
Figure 3-7 TAGA Grid Sampling
Figure 3-8 Grid Bag Sampling

Figure A-1 Plot of Yt vs. t Monitoring Well CR-13A
Figure A-2 Plot of Yt vs. t Monitoring Well LF-8
Figure A-3 Plot of Yt vs. t Monitoring Well LF-11
Figure A-4 Plot of Yt vs. t Monitoring Well LF-13
Figure A-5 Plot of Yt vs. t Monitoring Well CR-6
Figure A-6 Plot of Yt vs. t Monitoring Well CR-9
Figure A-7 Plot of Yt vs. t Monitoring Well CR-1
Figure A-8 Plot of Yt vs. t Monitoring Well CR-4A
Figure A-9 Plot of Yt vs. t Monitoring Well CR-4B
Figure A-10 Plot of Yt vs. t Monitoring Well CR-12A
Figure A-11 Plot of Yt vs. t Monitoring Well CR-12B
Figure A-12 Plot of Yt vs. t Monitoring Well CR-3C
Figure A-13 Plot of Yt vs. t Monitoring Well CR-4C

000005

BCM

LIST OF TABLES

Table 2-1 Stormwater Drainage Characteristics
Table 2-2 Hog Run Creek Dimension Characteristics and Adjacent Land Uses
Table 2-3 Summary of Reported Soil Characteristics

Table 3-1 Groundwater Monitoring Well Information
Table 3-2 Analytical Methods Used for Analysis of Groundwater Sample
Table 3-3 Surface Water and Sediment Sampling Stations
Table 3-4 Stream Sampling Field Data
Table 3-5 Soil Sampling Protocol Summary
Table 3-6 Air Monitoring Target Compounds

Table 4-1 US EPA Interim Primary Drinking Water Standards
Table 4-2 Summary of Organic Compounds Detected in Monitoring Wells
Table 4-3 Groundwater Evaluation Parameters
Table 4-4 Zones A-1 and A-4 Evaluation Parameter Concentrations
Table 4-5 Zone A-2 Evaluation Parameter Concentrations
Table 4-6 Zone A-3 Evaluation Parameter Concentrations
Table 4-7 Zones B and C Evaluation Parameter Concentrations
Table 4-8 Zone D Evaluation Parameter Concentrations
Table 4-9 Zone P-2 Evaluation Parameter Concentrations
Table 4-10 Zone P-3 Evaluation Parameter Concentrations
Table 4-11 Hog Run Station Parameter Concentrations
Table 4-12 Delaware River Station Parameter Concentrations
Table 4-13 Surficial Soil Metal Concentrations
Table 4-14 Maple Beach West Soil Aromatics Concentrations
Table 4-15 Bristol Township Sewage Treatment Plant Soil Analysis Results
Table 4-16 Grid Air Sampling Target Compounds
Table 4-17 TAGA Program Target Compounds
Table 4-18 Permanent Air Sampling Location Target Compounds
Table 4-19 TAGA Site Perimeter Air Monitoring Results
Table 4-20 Results of TAGA Air Bag Analysis

LIST OF APPENDICES

Appendix A Hydraulic Conductivity Calculations
Appendix B Groundwater Flow Rate Calculations
Appendix C Groundwater Discharge Volume Calculations
Appendix D Basin Loss Calculations
Appendix E Well Drilling Logs
Appendix F Lab Sample Preservation Protocol
Appendix G BCM Sampling Protocol
Appendix H Soil Sampling QC Procedures
Appendix I Glossary of Terms
Appendix J Analytical Results

000006

BCM

TABLE OF CONTENTS

		Page
1.0	EXECUTIVE SUMMARY	1-1
1.1	Overview of the Project	1-1
1.2	Description of the Landfill	1-1
1.3	Water Quality Assessment	1-2
1.3.1	Approach	1-2
1.3.2	Principal Analytical Findings	1-3
1.3.3	Conclusions	1-3
1.4	Soil Quality Assessment	1-4
1.4.1	Approach	1-4
1.4.2	Principal Analytical Findings	1-4
1.4.3	Conclusions	1-5
1.5	Air Quality Assessment	1-5
1.5.1	Approach	1-5
1.5.2	Principal Analytical Findings	1-6
1.5.3	Conclusions	1-6

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1.0 EXECUTIVE SUMMARY

1.1 OVERVIEW OF THE PROJECT

This report presents the current findings of an ongoing comprehensive study of environmental conditions within, and in the vicinity of, the Rohm and Haas industrial landfill located in Bristol Township, Bucks County, Pennsylvania. The major point at issue in this report is whether the landfill presents an imminent threat to human health or the environment. The study efforts conducted to date have therefore focused on the quality of water, soils, and air in a study area which encompasses the landfill itself, adjacent land parcels owned by Rohm and Haas and others, and surface water bodies where they pass through, or adjacent to, the site. The study area is shown on Figure 1-1.

Additional investigations not covered in this report but currently underway or in planning include:

- geophysical studies to locate buried waste or subsurface contamination. Techniques used will include a magnetometer survey (nearing completion), terrain conductivity, and resistivity.

- additional groundwater and surface water sampling and analysis to determine the effect of seasonal changes, particularly rainfall, on environmental conditions.

- a continuing program of air monitoring, through 1984, to determine potential seasonal changes in organic vapor discharges from the landfill

- preliminary engineering studies to determine the most effective means to manage identified environmental problems as well as to preclude future problems at the site.

1.2 DESCRIPTION OF THE LANDFILL

Rohm and Haas operated the landfill on their property adjacent to their Bristol (areas A and C) and Croydon (area B) manufacturing facilities from 1952 to 1975. The landfill was used for selected Rohm and Haas-generated waste and Bristol Township refuse from several community cleanup/fixup campaigns. Materials from other industries were not accepted into the landfill. One hundred twenty acres were used for waste disposal.

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1.3 WATER QUALITY ASSESSMENT

1.3.1 Approach

The water quality assessment evaluated conditions in the groundwater and surface water system, viz., Hog Run Creek and the Delaware River.

The groundwater monitoring system consists of 57 groundwater monitoring wells and 7 piezometers. Nine of the wells were installed prior to 1980 as part of an earlier investigation. The new wells were installed along the perimeter of known waste disposal areas, along the perimeter of the study area, and at other selected locations where more definitive information was needed. The wells were constructed of 4-inch I.D. Schedule 40 PVC casings, well screens, and caps. Well depths ranged from 12 to 90 feet below the ground surface, the deeper wells penetrating the bedrock.

The initial 37 groundwater monitoring wells were sampled between October 25 and November 4, 1983 and the remainder between February 6, and February 24, 1984. Each sample was subjected to laboratory analysis for up to 176 parameters in the following six categories.

1. Contamination indicators (6)
2. Inorganic compounds identified with Rohm and Haas production (14)
3. Organic compounds identified with Rohm and Haas production (21)
4. EPA's list of priority pollutants (128), and herbicides (3)
5. Radioactivity (3)
6. Dioxin (2,3,7,8-TCDD) - on selected wells (1)

All analyses were conducted using EPA-approved test methods, where applicable, at EPA-certified laboratories.

Surface water and sediment samples were obtained upstream from, within the influence of, and downstream from the known waste disposal areas. Representative shoreline seeps were also sampled. Nine surface water, six seeps, and three sediment samples were obtained along Hog Run Creek. Three Delaware River samples were obtained along with a composite of several seeps along the Delaware River shoreline. One surface water and two seep samples were obtained along the unnamed branch flowing west from the headwater area of the west branch of Hog Run Creek.

Sampling along the Delaware River and the main stem of Hog Run Creek was conducted on November 22 and 23, 1983, and along the west branch of Hog Run Creek and the unnamed branch on February 23, 1984. Analytical parameters for the November sampling were as described above with the additional parameter of temperature and with the exception of dioxin (category 6). The analysis of the February samples were limited to volatile organics and selected parameters from categories 2 and 3.

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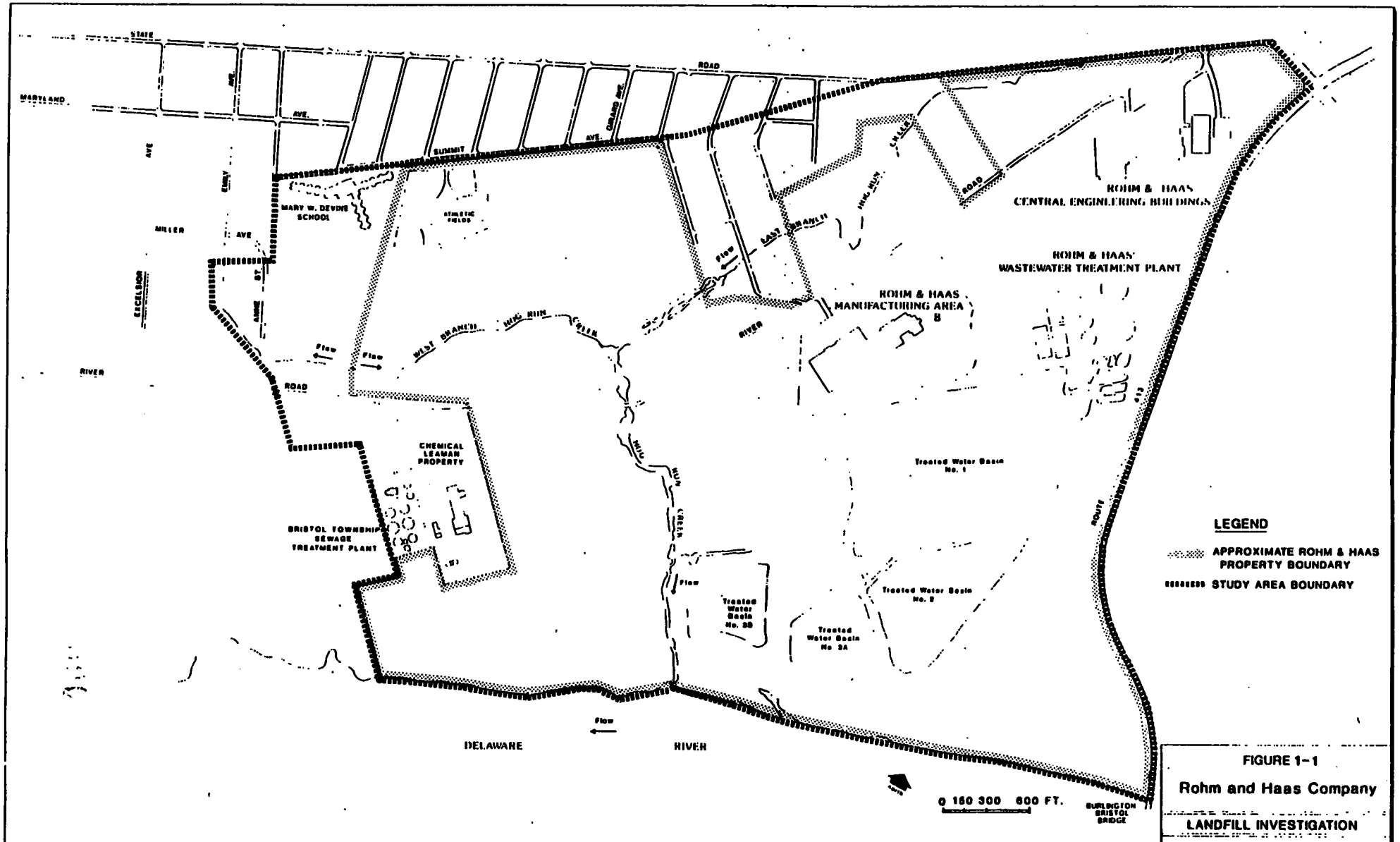

FIGURE 1-1

Rohm and Haas Company

LANDFILL INVESTIGATION

Study Area Map

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1.3.2 Principal Analytical Findings

1. For those parameters included within the EPA's interim primary drinking water standards, the measured concentrations in 48 of 50 wells analyzed for those parameters and all surface water and seep locations were within (better quality than) the standards. Two wells slightly exceeded the standards for chromium and arsenic.

2. Concentrations of two inorganic compounds, ammonia and sulfate, generally together with specific conductance, chemical oxygen demand (COD), and total organic carbon (TOC), were elevated in many monitoring wells and in Hog Run Creek.

3. Concentrations of the priority pollutant metals not included in the U.S. EPA Interim Primary Drinking Water Standards - antimony, beryllium, copper, nickel, thallium, and zinc - along with cyanide, were either below the limits of detection or at very low concentrations in all wells and surface water and seep stations.

4. Twenty-seven of the 113 organic priority pollutants were detected in one or more wells, however, in no one well did the total quantity of detected organic priority pollutants exceed 1 milligram per liter (mg/l - parts per million).

5. Only two of the 113 organic priority pollutants were detected in surface water sampling.

6. No priority or non-priority pollutant pesticides or herbicides were detected.

7. No polychlorinated biphenyls (PCB's) were detected.

8. No dioxin was detected.

All analytical results are tabulated in Appendix J.

1.3.3 Conclusions

1. All groundwater beneath the landfill discharges to Hog Run Creek and/or the Delaware River. Groundwater does not flow to any residential area and therefore does not affect the quality of local water supplies.

2. The discharge of ammonia from the landfill area has no measurable environmental effect on the quality of the water in the Delaware River. However, at one location in Hog Run Creek, ammonia concentrations exceeded the criteria recently proposed by the U.S. Environmental Protection Agency (February 7, 1984) to protect freshwater aquatic life.

3. The discharge of sulfates from the landfill area has no significant environmental effect on Hog Run Creek or the Delaware River.

4. The net discharge of oxygen demanding substances, as measured by TOC and COD, is insignificant in comparison to existing quantities measured in the Delaware River.

5. Of the 27 organic priority pollutants detected in the groundwater, only two were detected in adjacent surface water - indicating significant contaminant attenuation or dilution. The levels of discharge of these two contaminants are not environmentally significant.

1.4 SOIL QUALITY ASSESSMENT

1.4.1 Approach

Rohm and Haas formerly owned the properties which are now owned by the Bristol Township School District (Mary Devine School) and the Bristol Township Utilities Authority (sewage treatment plant and yard). Also, Rohm and Haas owns property east of the school used for ballfields, a wooded area east of the school and north of River Road, and an area once occupied by the Bucks County Mosquito Control Commission north of River Road. Soil samples were obtained in each of these areas at depths ranging from 0 to 12 feet, but predominantly in the range of 0 to 6 inches. A more detailed sampling program was conducted for portions of the Bristol Township Sewage Treatment Plant because unknown waste material was visible on the surface.

The surface sampling program was conducted between October 26 and November 14, 1983. Samples collected at the sewage treatment plant were analyzed for Category 1 through 5 compounds (see section 1.3.1). All other samples were analyzed for Category 3 and 4 compounds, and pH.

1.4.2 Principal Analytical Findings

1. No soil contamination was detected at the Mary Devine School, ballfields, or the wooded area east of the school and north of River Road.

2. DDT and its decomposition products (metabolites) were detected as high as 880 parts per billion in composite samples formed from two of the four borings conducted at the Mosquito Control Commission area.

3. On the Bristol Township property, low concentrations of four volatile organic compounds were detected in subsurface waste samples only.

000012

4. Polynuclear aromatic compounds classified by the U.S. EPA as priority pollutants were found in the surface soils in the Maple Beach area, west of Route 413.

1.4.3 Conclusions

1. At the Mary Devine School, ballfields, or northern perimeter areas, the surface soils pose no threat to human health or the environment.

2. The concentrations of DDT and its metabolites detected at the former Mosquito Control Commission property pose no threat to human health or the environment.

3. Concentrations of volatile organic compounds (primarily benzene and toluene) detected in the subsurface waste composite sample collected from the Bristol Township Sewage Treatment plant property pose no threat to human health or the environment in their present buried condition. However, should this material be disturbed through excavation or by other means, appropriate measures for personnel protection should be considered. Analytical results from the surface waste composite sample show that this material poses no threat to human health or the environment.

4. Concentrations of the polynuclear aromatic hydrocarbon compounds (PNA's) found in the composite surface soil sample from the Maple Beach West area pose no threat to human health or the environment.

1.5 AIR QUALITY ASSESSMENT

1.5.1 Approach

The landfill was laid out in an approximate 200-foot square grid system. Air sampling along the grid pattern was conducted on November 9 and 10, 1983 using organic vapor analyzers to identify specific areas emitting organic vapor concentrations equal to twice the backgound level. Background levels were determined upwind of the landfill.

In addition, six permanent perimeter sampling stations were established approximately 60 degrees apart from the center of the landfill. The location of these sites allows for both an upwind and downwind sampling location on a given day. Also, a mobile Trace Atmospheric Gas Analyzer (TAGA) 6000 mass spectrometric measurement system was utilized to sample specific grid points as well as to conduct perimeter sampling on January 9 and 10, 1984.

Based on the Bristol Plant manufacturing history, a list of 11 target organic compounds was compiled. Air quality guidelines promulgated by the Philadelphia Department of Public Health, Air Management Service (AMS), are being used to determine the significance of the concentrations of compounds detected.

1.5.2 Principal Analytical Findings

The results of the grid sampling programs with the organic vapor analyzers indicated the presence of organic vapors in only two of the approximately 200 locations sampled. The instrumentation indicates that the vapor was most probably methane rather than a chemical product disposed of at the site.

Grid point sampling using the TAGA system indicated the presence of benzene, toluene and xylene at concentrations close to the limits of detection; i.e. 18 parts per billion (ppb) maximum of toluene, and 15 ppb maximum of benzene. The equipment indicated the presence of xylene but at concentrations below the quantifiable detection limit of the instrumentation.

Permanent perimeter sampling did not detect the presence of any of the target organic compounds. Perimeter monitoring using the TAGA system detected benzene and xylene at or near the limits of detection, i.e., less than 9 ppb.

1.5.3 Conclusions

The data generated from the diverse sampling methods (i.e., permanent perimeter, grid, and TAGA system) indicate that, with only the exceptions cited above, the concentrations of the 11 target compounds are not increased or caused by the presence of the landfill. Benzene, toluene, and xylene levels were all below (better quality than) the Air Management Services guidelines.

The air monitoring biweekly program is continuing and as more data is collected, it will be possible to determine if there is a significant emission of organic vapors from the landfill.

Therefore, analytical data collected to date indicate that the landfill has no significant impact on air quality from the landfill and poses no threat to human health or the environment.

000014

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TABLE OF CONTENTS

		Page
2.0	DESCRIPTION OF THE STUDY AREA	2-1
2.1	General	2-1
2.1.1	Background and Location	2-1
2.1.2	Landfill Dimensions	2-1
2.1.3	Surface Features	2-3
2.1.3.1	Topography	2-3
2.1.3.2	Vegetation	2-3
2.1.3.3	Adjacent Land Use	2-4
2.2	Geology	2-4
2.2.1	Regional	2-4
2.2.2	Study Area	2-5
2.2.2.1	Unconsolidated Geologic Units	2-5
2.2.2.2	Bedrock	2-6
2.3	Hydrogeology	2-6
2.3.1	Regional	2-6
2.3.2	Study Area	2-7
2.3.2.1	Groundwater	2-7
2.3.2.2	Groundwater Flow Direction	2-7
2.3.2.3	Groundwater Flow Rates	2-9
2.3.2.4	Annual Groundwater Discharge Volume	2-9
2.4	Surface Water Hydrology	2-10
2.4.1	Surface Water Drainage	2-10
2.4.2	Surface Water Bodies	2-10
2.5	Soils	2-13
2.6	Air Basin	2-13

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2.0 DESCRIPTION OF THE STUDY AREA

2.1 GENERAL

2.1.1 Background and Location

The Rohm and Haas industrial landfill is located in the Croydon area of Bristol Township in Lower Bucks County, Pennsylvania. The location of the landfill study area is shown in Figure 2-1.

Rohm and Haas operated the landfill on Rohm and Haas property adjacent to their Bristol (areas A and C) and Croydon (area B) manufacturing facilities from 1952 to 1975. The landfill was used as a repository for selected Rohm and Haas-generated wastes. The only other material accepted was Bristol Township refuse from several community cleanup/fixup campaigns. No materials from other industries were accepted into the landfill at any time.

The Rohm and Haas landfill operations were confined to several discrete locations in the area south of River Road (formerly China Lane), east of the western boundary of the current Bristol Township Sewage Treatment Plant, west of Route 413, and north of the Delaware River. Of the 346 acres within this area, 120 acres were used for landfilling operations. To assess the groundwater, surface water, and soils within the vicinity of the landfill, the study area was expanded as shown in Figure 2-2 to include additional Rohm and Haas property as well as Bristol Township and private property south of Summit Avenue.

2.1.2 Landfill Dimensions

The overall landfill area has approximate lateral dimensions of 5,820 feet (northeast-southwest) by 780 to 1,950 feet (northwest-southeast). The area is bounded to the north by River Road and on the south by the Delaware River and the Rohm and Haas treated water basins. The landfill area is bounded on the west by the western boundary of the Bristol Township Sewage Treatment Plant and on the east by the Rohm and Haas wastewater treatment facility and central engineering building. The Bristol Township Sewage Treatment Plant and a private chemical transport company now occupy 22 acres of the northwest corner of the former landfill area. Rohm and Haas manufacturing area B is located in the eastern portion of the landfill study area.

To aid in the review of environmental conditions, the study area was divided into several sub-areas. The sub-areas and the locations of known waste disposal areas are shown on Figure 2-3.

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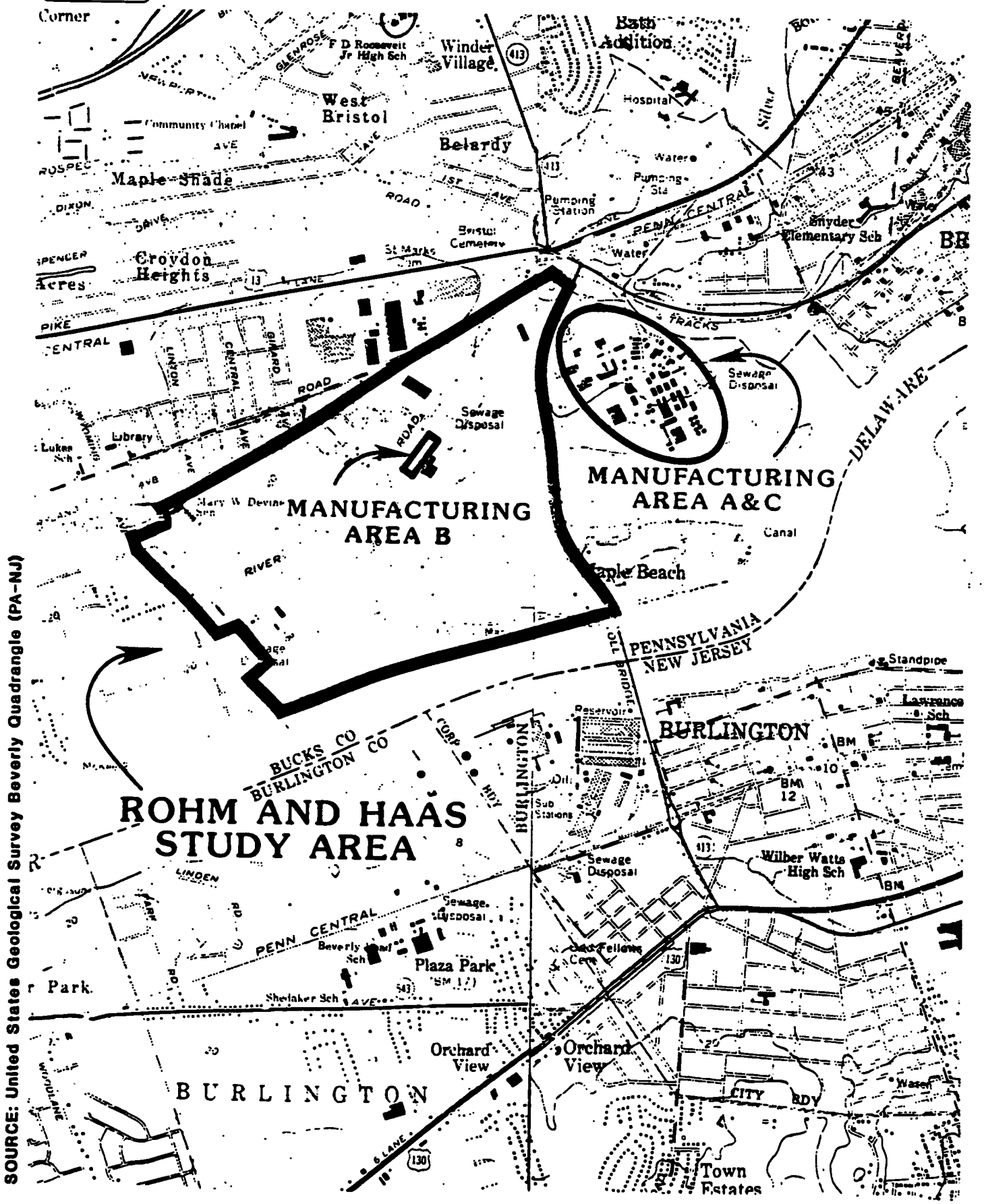

SOURCE: United States Geological Survey Beverly Quadrangle (PA-NJ)

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FIGURE 2-1

LOCATION MAP

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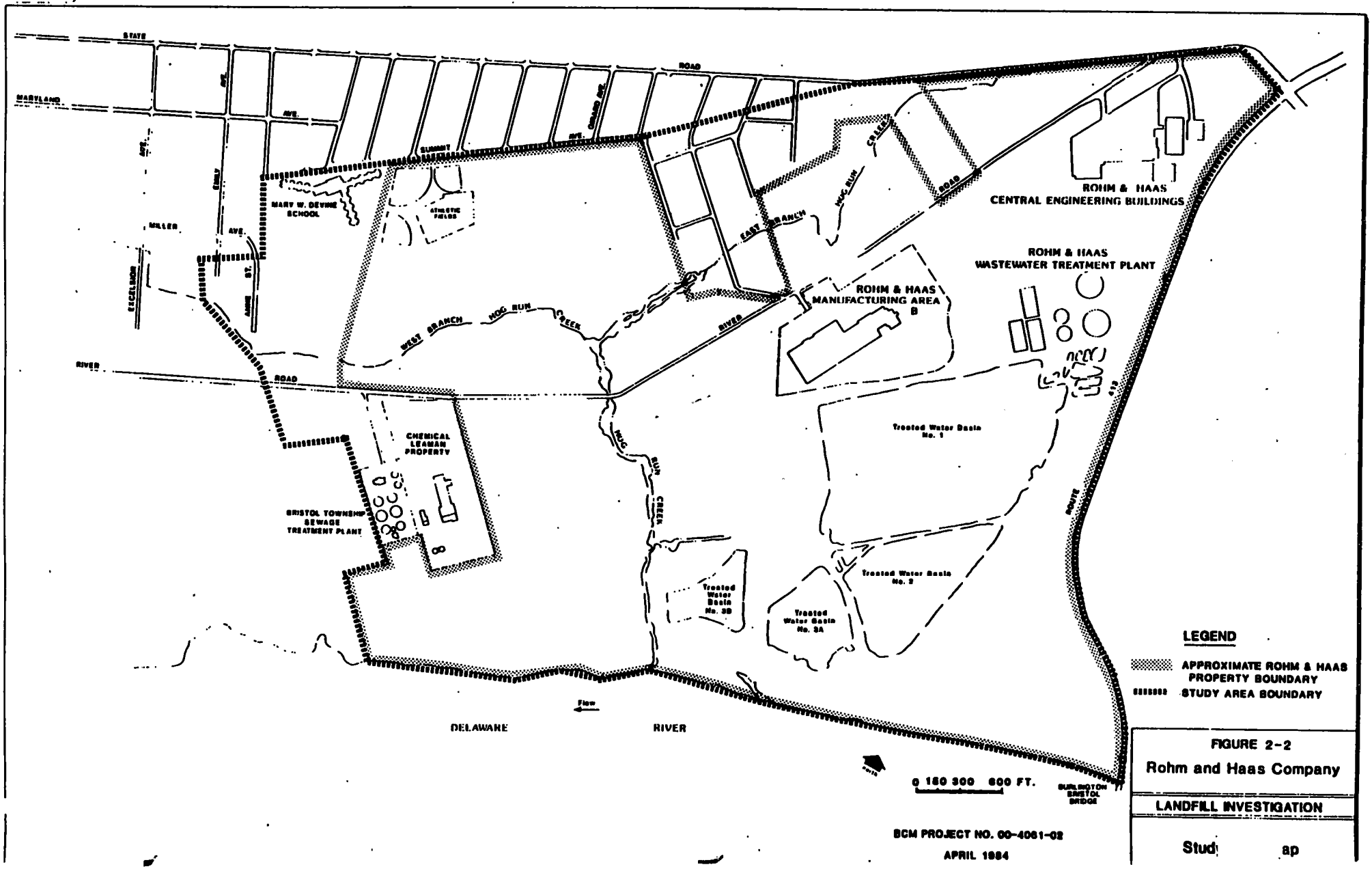

FIGURE 2-2

Rohm and Haas Company

LANDFILL INVESTIGATION

Study Area Map

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North of River Road is a wooded area which extends north to the ballfields, the Mary Devine School, and Summit Avenue. Wetland vegetation exists along the east and west branches of Hog Run Creek.

2.1.3.3 Adjacent Land Use

Land use in the areas adjacent to, and within, the study area is shown on Figure 2-5. The southern side of the study area is bounded by the Delaware River and the treated water basins. From west to east, the northern perimeter of the landfill is bounded by a large undeveloped deciduous wooded area, a small residential area, and several commercial-industrial buildings near the intersection of River and State Roads. The area adjacent to the east side of the study area is occupied by Rohm and Haas manufacturing areas A and C. A municipal garage is located within the western boundary of the study area and an electric substation is adjacent to the study area at the western boundary.

2.2 GEOLOGY

2.2.1 Regional

The study area is located within the Atlantic Coastal Plain physiographic region. The Coastal Plain of southeastern Pennsylvania occupies the long, narrow area adjoining the Delaware River between Morrisville, Pennsylvania and the Delaware state line. It is bounded on the north and west by the Fall Line, which defines the inner or landward margin of the Coastal Plain. The region is flat to gently rolling, and ranges in elevation from 0 to 60 feet above sea level.

Two general types of geologic material, unconsolidated sediments of the Coastal Plain which range in age from Cretaceous to Recent, and older crystalline metamorphic rocks which form the basement complex beneath the Coastal Plain sediments, underlie the region. The Coastal Plain sediments include the principal aquifers of the area.

The crystalline rock outcrops northwest of the Fall Line and slopes gently southeastward below the Coastal Plain sediments. Ancestral streams that traversed the area incised channels into the bedrock floor. These channels contain accumulations of Cretaceous age sediments which are overlain by younger Quaternary age sediments. The Cretaceous sediments consist of alternating beds of sands, gravels, and clay of the Raritan formation. The Quaternary age sediments consist of silts, sands, and boulders of Pleistocene glacial outwash, and silts, sand, and gravel of Recent overbank deposits.

000019

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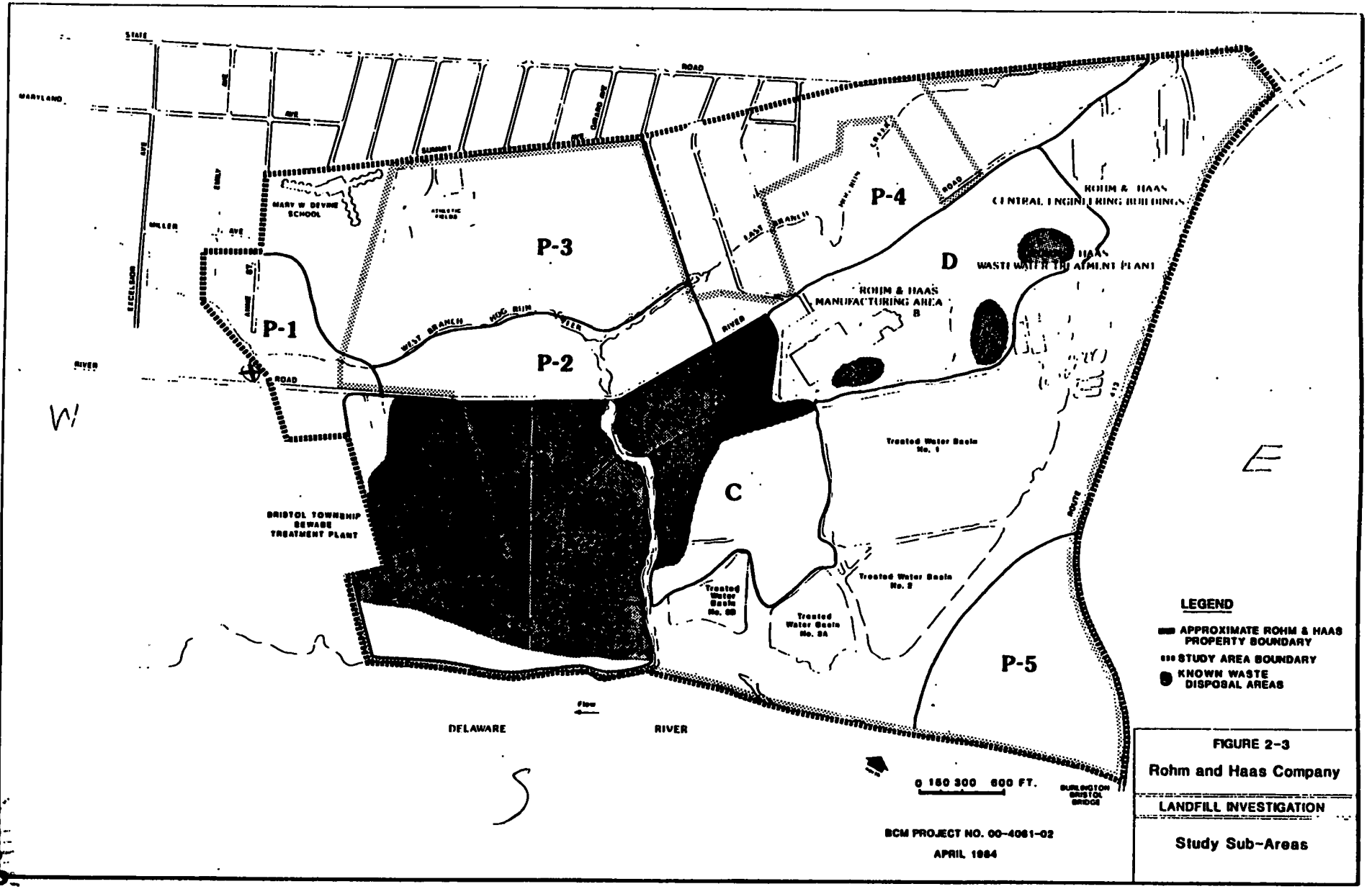

FIGURE 2-3

Rohm and Haas Company

LANDFILL INVESTIGATION

Study Sub-Areas

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2.1.3 Surface Features

2.1.3.1 Topography

The study area exhibits a range in elevation of approximately 30 feet. The highest ground elevation is 31.8 feet above mean sea level along River Road; the lowest ground elevation in the study area is the low-tide shoreline elevation of the Delaware River. The topographic features of the study area parallel the Delaware River, reflecting its river terrace setting. Figure 2-4, a topographic map of the study area, is provided at the end of this report.

The Croydon neighborhood, located between State Road and Summit Avenue, is on a gentle grade which slopes toward the river. The Mary Devine School, ballfields, and a large wooded area north of River Road are located in a broad, low, swampy, flat area trending northeast with an elevation of 8 to 20 feet. This flatland may correspond to an ancestral river channel or other river-made features. South of the flatland area, the ground rises to form an irregular, elongated ridge extending from west of the Bristol Township Sewage Treatment Plant to the intersection of State and River Roads. The ridge, which crests at elevations of 20 to 25.6 feet, appears to reflect a natural river levee or terrace. The presence of fill material may have added some elevation to this ridge. This northeast - southwest trending ridge is bisected by Hog Run Creek, which has two forks north of River Road draining the flat lowland between River Road and Summit Avenue. The landfill, which ranges from 8 to 25.6 feet in elevation, has a subdued rolling to flat surface. The area south and east of the landfill exhibits short, steep slopes along the Delaware River and Hog Run Creek. The land slopes less severely towards the Delaware River in the southeast quarter of the landfill area. This area is typically 6 to 8 feet in elevation.

In summary, the study area may be thought of as a fairly level surface which slopes gently from northwest to southeast with a small ridge on the north boundary and another ridge midway to the river. This other ridge is bisected by Hog Run Creek.

2.1.3.2 Vegetation

The majority of the area south of River Road is vegetated with thin grass and low brush. The banks of Hog Run Creek and the areas north of River Road are largely wooded with deciduous trees and a thick underbrush. Lower elevations in the study area along Hog Run Creek also contain wetland vegetation such as cattails.

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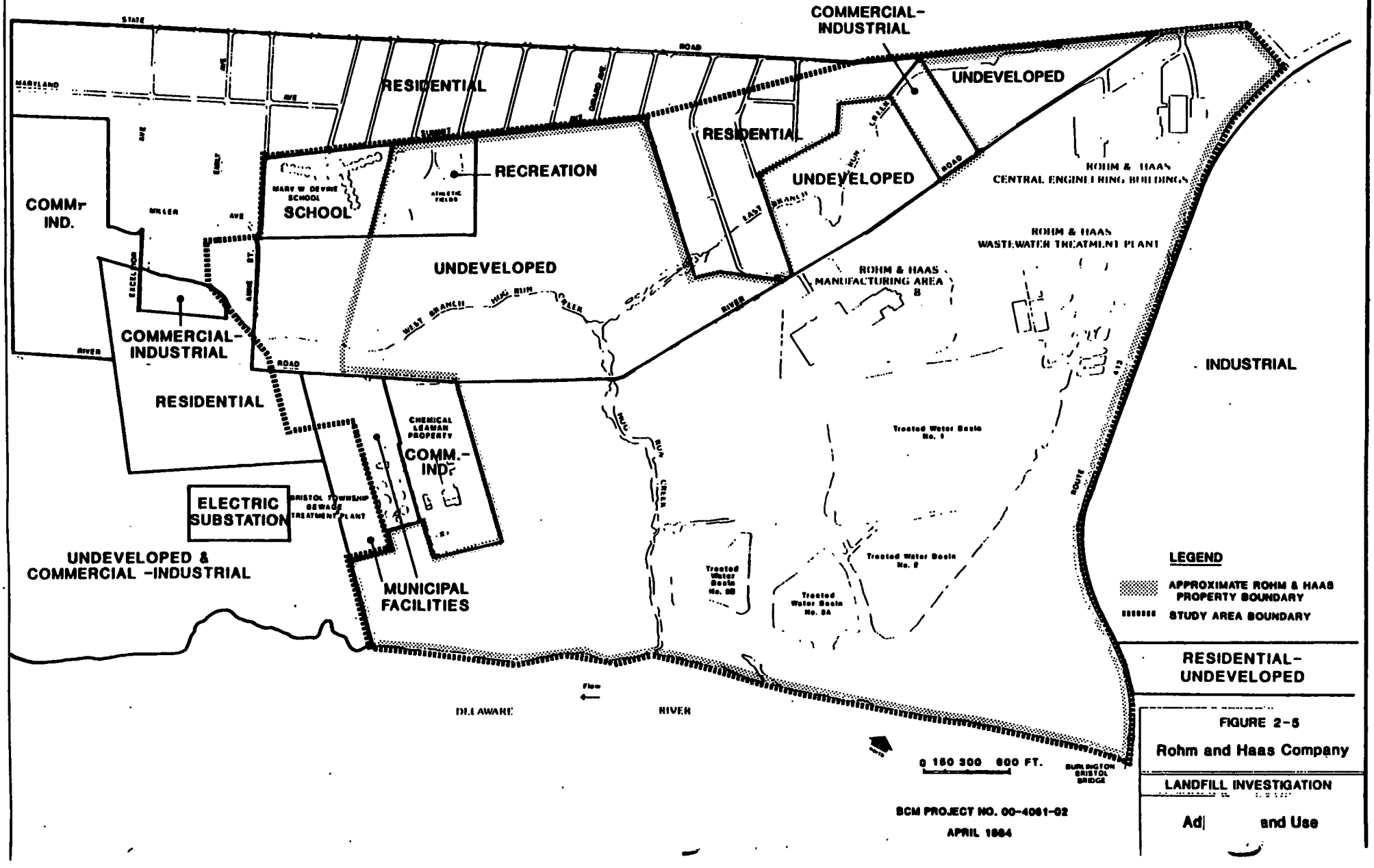

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FIGURE 2-5

Rohm and Haas Company

LANDFILL INVESTIGATION

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2.2.2 Study Area

The study area is located slightly over a mile southeast of the Fall Line. Consistent with the regional geologic setting, the study area is underlain by two types of geologic material. The surficial geologic materials consist of unconsolidated water-deposited sediments which range between 20 and 60 feet in thickness. The unconsolidated sediments rest upon schist bedrock which exhibits an uneven surface. The top of bedrock consists of saprolite, a soft, mica- and clay-rich, thoroughly decomposed rock formed by natural weathering in place. Much of the land surface south of River Road is composed of dredged river sediments ranging from silt to cobbles.

2.2.2.1 Unconsolidated Geologic Units

The surface geologic materials consist of a thin layer of water-deposited silty sand and gravel and, in some areas, undifferentiated dredged material ranging from silt to cobbles. These surface materials are underlain by unconsolidated sediments of Quaternary age and Cretaceous age and, finally, by bedrock. The unconsolidated sediments were subjected to both erosion by, and deposition from, a river channel or channels that meandered back and forth across the site. This dynamic depositional environment caused the alluvial sediments to be deposited in an erratic manner. The sediment layers are typically discontinuous throughout the area.

Quaternary age sediments in the area consist of varying thicknesses of Recent alluvium and Pleistocene glacial outwash. The alluvial and glacial sediments consist generally of clay, silt, sand, gravel and boulders which are lithologically and hydrologically indistinguishable. The alluvial sediments are a result of post-glacial overbank deposition and accretion by the Delaware River and its tributaries. The glacial outwash sediments are a result of deposition by glacial melt waters. As reported by literature and confirmed by field investigations, the lithology and texture of the Quaternary deposits vary greatly from place to place, and there is no well-defined horizon which is persistent throughout these erratically interbedded deposits. These sediments range from 8 to 40 feet in thickness.

Cretaceous age sediments reported by literature to be present near the area consist of alternating beds of clay and sand or gravel of the Raritan formation. These Cretaceous age sediments are difficult to discern from the overlying Quaternary sediments due to the erratic nature of deposition and to somewhat similar lithologies and texture. Sediments which appear to correspond to the Cretaceous Raritan formation are present along the southern portion of the study area at depths ranging from 8 to 50 feet and north of the west and east branches of Hog Run Creek at depths ranging from 17 to 55 feet below grade.

The unconsolidated sediments rest unconformably on top of the weathered surface of the underlying schist bedrock. The sediments are thicker towards the Delaware River to the southeast and towards State Road to the northwest from a subterranian bedrock "ridge" which extends from the Bristol Township Sewage Treatment Plant northeast to beneath the Rohm and Haas manufacturing area B. The sediments are approximately 5 to 20 feet thick over the top of the subterranian bedrock ridge, and 35 to 60 feet thick north and south of this ridge. The unconsolidated sediments range up to 100 feet thick to the northeast beneath the Rohm and Haas manufacturing areas A and C.

2.2.2.2 Bedrock

The site bedrock consists of the Precambrian age Wissahickon schist. It is a mica-rich crystalline schist which has a white to rust colored clay saprolitic surface. Bedrock was encountered during monitoring well installation at depths ranging from 15 to 55 feet below grade. The bedrock surface contour is shown in Figure 2-6. The bedrock ridge extends northeast-southwest beneath an area extending from the Bristol Township Sewage Treatment Plant to the Rohm and Haas manufacturing area B. The bedrock surface plunges to the northwest, northeast, and southeast from this subterranian ridge. The bedrock ridge may represent a median between two ancient river channels and/or a zone of rock relatively more resistant to weathering and erosion. Samples of the saprolitic bedrock have been measured to .e much less permeable than the overlying sediments.

2.3 HYDROGEOLOGY

2.3.1 Regional

The groundwater flow in Lower Bucks County is largely controlled by the distribution and nature of the local geologic materials and the humid climate. Lower Bucks County is underlain in areas by a discontinuous blanket of unconsolidated Coastal Plain sediment and, along the Delaware River, by alluvial sand and gravel (see Section 2.2.1). The unconsolidated sediments form an uneven layer of highly permeable material that typically thickens towards the southeast and is dissected by numerous tributaries to the Delaware River. This layer of unconsolidated sediments is underlain by a highly metamorphosed crystalline bedrock which is generally lower in permeability than the surface sediments. Precipitation not lost to evapotranspiration and stormwater runoff infiltrates into the ground and percolates to the water table. The water table is typically parallel to the surface topography and mounds beneath topographic highlands. The water table may be locally depressed in areas of groundwater withdrawals. The groundwater flows downward and laterally towards lower

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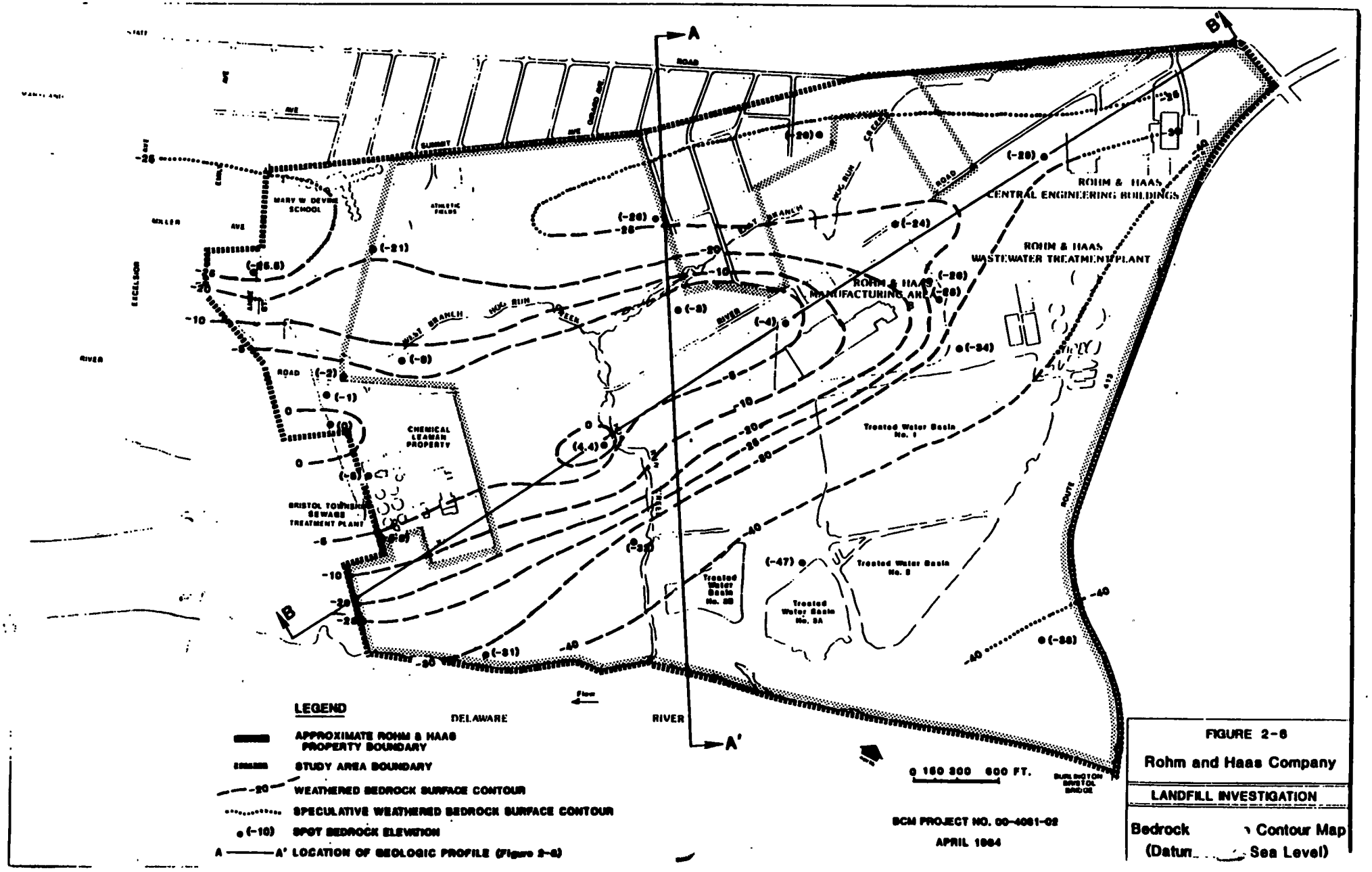

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FIGURE 2-6
Rohm and Haas Company
LANDFILL INVESTIGATION
Bedrock Contour Map
(Datum Sea Level)

elevations or areas of lower hydraulic potential, discharging to the regional streams and to the Delaware River. In areas along the Delaware River, unconsolidated sediments convey the majority of groundwater flow due to their higher permeabilities relative to the underlying bedrock. The Delaware River is the ultimate discharge point for groundwater in the region. The Delaware River discharges to the Atlantic Ocean via the Delaware Bay.

2.3.2 Study Area

2.3.2.1 Groundwater

Groundwater in the study area originates with infiltration of precipitation and inflow of groundwater from upgradient recharge areas. The groundwater occurs in the interconnected voids in the geologic material. The voids consist of the intergranular space in the alluvial sediments and saprolite, and in fractures in the bedrock. Groundwater flow is controlled to a large degree by the nature of the geologic unit, by the topography of the ground, and the proximity of surface water bodies (i.e., Hog Run Creek, Delaware River, and the treated water basins).

The coarse alluvial sediments have a much higher hydraulic conductivity than the underlying saprolitic bedrock. The alluvial sediments convey the majority of the groundwater with the underlying relatively impervious bedrock acting as a lower limit to significant groundwater flow. Discontinuous clay layers in the alluvial sediments locally divide layers of more permeable sand and gravel and create locally confined conditions.

The study area is bordered to the south by the tidal Delaware River and bisected by Hog Run Creek, which is a tidal tributary to the Delaware River. The groundwater level has been noted to fluctuate in concert (following a short lag period) with the tidal fluctuations of the river. This groundwater response to the tides diminishes with distance and increase of elevation away from the river. Short-term reversal of groundwater flow direction occurs in a narrow strip along the river and stream banks. The tidal fluctuation noted in wells further away from the river reflect a pooling of groundwater, due to the reduced hydraulic gradient towards the river and the hydraulic damming along the river bank by high tide.

2.3.2.2 Groundwater Flow Direction

Groundwater levels in 55 of the monitoring wells and piezometers were measured on February 17, 1984. The average depth to the groundwater table was approximately 7.25 feet. The depth to the groundwater table ranged from just below the surface in the low lying areas along Hog Run Creek to 30 feet below grade at a topographic high point. These groundwater levels were used to develop the groundwater contour map in Figure 2-7. The groundwater contours show the surface configuration of the

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water table aquifer. The direction of groundwater flow is perpendicular to the contour lines. The groundwater flow directions are also shown on the figure. The groundwater flow pattern closely parallels the surface drainage pattern because the water table is mounded beneath the topographically elevated areas. The presence of the bedrock ridge running from the Bristol Township Sewage Treatment Plant to the Rohm and Haas manufacturing area B significantly influences the groundwater flow regime. All groundwater flowing from the study area discharges either directly to the Delaware River or indirectly via discharge to streams tributary to the river.

Groundwater flows from the area north of River Road towards the east and west branches of Hog Run Creek. The alluvial aquifer thins from north to south due to the presence of the relatively impermeable bedrock. This forces the groundwater to discharge upwards to the east and west branches of Hog Run Creek, and to the various springs, seeps, and swampy areas along the limbs of Hog Run Creek. Also, relatively impermeable clay layers locally divide the groundwater flow to above and below these clay layers. Confined artesian aquifer zones result from upland recharge flowing beneath the confining clay layers as demonstrated by monitoring well CR-19A, which is a flowing well. These confined aquifers may extend beneath the branches of Hog Run Creek and discharge groundwater via leakage upwards through the confining beds or seepage upwards at the edge of discontinuous confining beds. A geologic profile is shown in Figure 2-8.

Groundwater mounding, due to the topographic relief and the bedrock ridge, occurs between the Bristol Township Sewage Treatment Plant and River Road and in a broad area beneath and near manufacturing area B. The groundwater flows radially from these mounded areas. Groundwater flowing north from these mounds discharges to the east and west branches of Hog Run Creek.

The precise direction of groundwater flow near the Bristol Township municipal garage at the west end of the study area is ambiguous due to low water table relief and the proximity of the surface water divide at the head end of the west branch of Hog Run Creek. Based on laboratory analysis of groundwater, the small component of flow discharging to Hog Run Creek at this location originates outside of known waste disposal areas and discharges to both the west branch of Hog Run Creek and the small unnamed stream flowing to the west. Preliminary groundwater quality data from wells LF-17, LF-18, LF-19, and LF-20 support this conclusion (see Section 4.1). Groundwater flowing south from these mounds eventually discharges to the Delaware River directly or via Hog Run Creek.

Hog Run Creek is a groundwater discharge boundary within the study area. The groundwater flows toward and into Hog Run Creek in the central segment of the study area and flows towards and into the Delaware River in the southwestern and southeastern portions of the study area.

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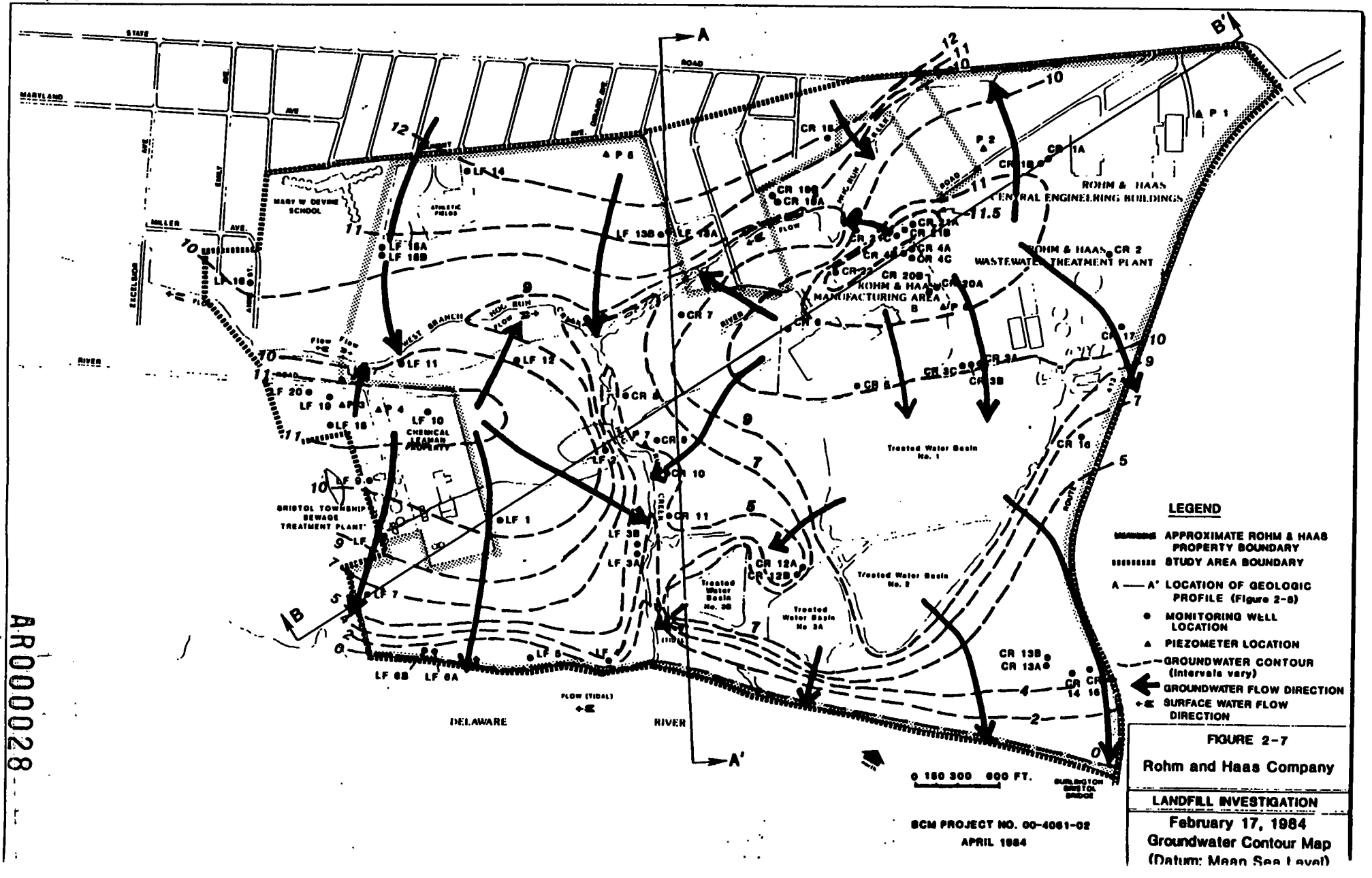

FIGURE 2-7

Rohm and Haas Company

LANDFILL INVESTIGATION

February 17, 1984

Groundwater Contour Map

(Datum: Mean Sea Level)

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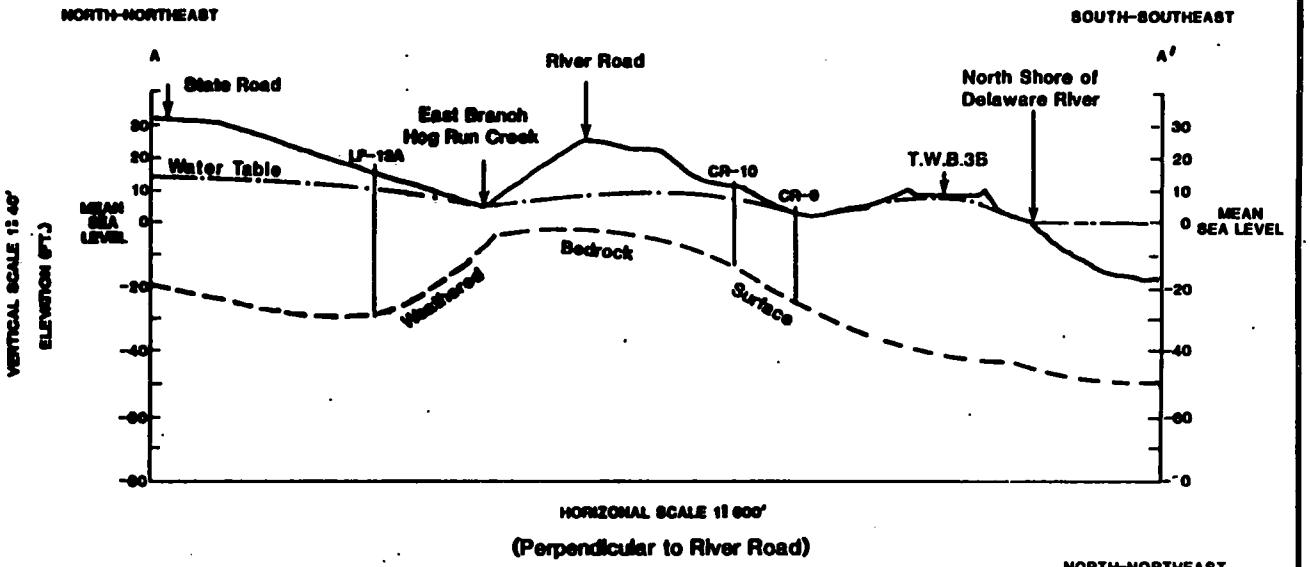
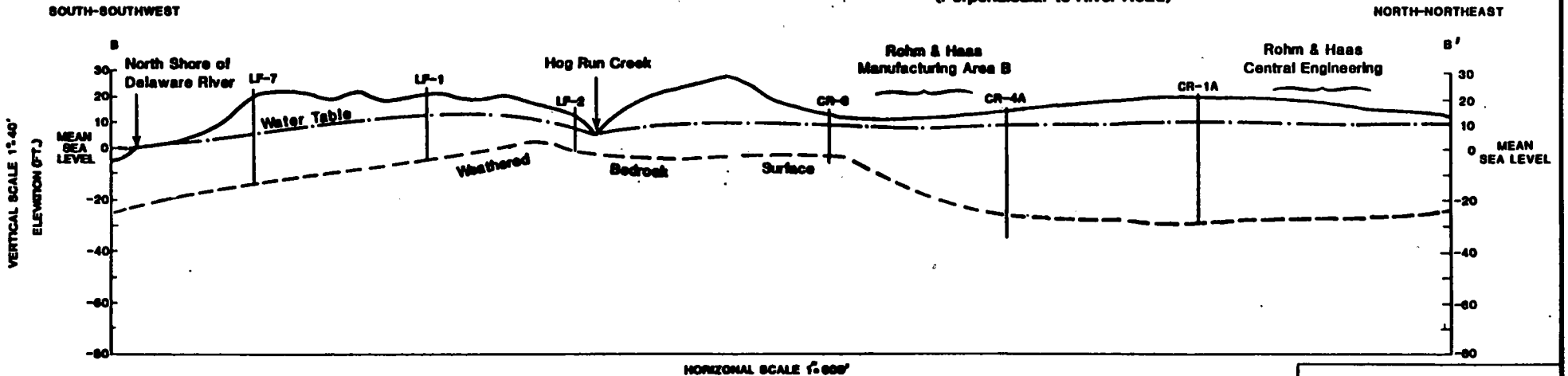


(Perpendicular to River Road)



(Parallel to River Road East of Hog Run Creek.
Oblique to River Road West of Hog Run Creek)

FIGURE 2-8
(Refer to Figure 2-7)
Rohm and Haas Company
LANDFILL INVESTIGATION
Geol ofile

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APRIL 1984

Rohm and Haas operates five, high capacity wells at manufacturing areas A and C, slightly less than one mile to the east, during the warmer months. These wells draw from a thicker section of the alluvial aquifer. The high hydraulic conductivity of the alluvium and the availability of induced recharge from the nearby Delaware River and Lakes Schmidt and Idaline minimizes the potential for the above wells to influence the direction of groundwater flow within the study area.

BCM also conducted a computer search of well records of the Pennsylvania Department of Environmental Resources (PADER) to locate water supply wells which could influence groundwater flow and direction. None were found.

2.3.2.3 Groundwater Flow Rates

The hydraulic conductivity (permeability) of the unconsolidated sediments, as measured by in-situ bail testing, ranges from 0.13 ft/day to 37.2 ft/day, and averages 7.6 ft/day. Calculations are contained in Appendix A. The hydraulic conductivity of the underlying saprolite as measured by laboratory methods is approximately 0.01 ft/day. The potential groundwater flow velocity (specific discharge) ranges from several feet per year to over 1,000 ft/yr, based upon calculations (modified Darcy equation) which take the aquifer hydraulic conductivity, aquifer porosity, and water table gradient into account. The most probable mean groundwater flow velocity throughout the study area is approximately 100 to 200 feet per year. Calculations are shown in Appendix B.

2.3.2.4 Annual Groundwater Discharge Volume

Calculations based upon flow net analysis and stream flow duration have determined the average annual landfill groundwater discharge volume to be approximately 60 to 100 million gallons (164,000 to 274,000 gpd). The calculations define the groundwater recharge area (consequently, the groundwater discharge area) as including zones A1-4, B, C, D, P-2, that portion of P-4 south of the east branch of Hog Run Creek, P-5, and the area occupied by the Rohm and Haas treated water basins. Calculations are shown in Appendix C and D. The groundwater discharge determination methodology utilized measurements of site variables, such as precipitation and groundwater gradient, that may change over time. Therefore, the volume calculated also may vary due to increases or decreases in precipitation or changes to the topography or landscape.

It is estimated that approximately one-quarter of the annual groundwater discharge is to Hog Run Creek and the remaining three-quarters is directly to the Delaware River.

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2.4 SURFACE WATER HYDROLOGY

2.4.1 Surface Water Drainage

The surface water drainage system south of River Road and west of Route 413 is composed of three components:

1. Land surface

2. Surface water bodies, i.e., Hog Run Creek and the Delaware River

3. The Rohm and Haas treated water basins which discharge into the Delaware River via Hog Run Creek under NPDES Permit No. PAD002292068.

Permeable soils, vegetation, and shallow slopes minimize the rate and volume of surface water runoff. The surface soil south of River Road is largely composed of sandy sediment dredged from the Delaware River. This sandy soil maximizes the amount of rainfall that infiltrates the surface and minimizes surface runoff. The area is largely covered with high grasses, which retard runoff and further enhance infiltration. The low relief, acting in conjunction with the permeable soils and high grasses, also enhances infiltration. Large portions of the area drain internally and have no surface outlet. A drainage description of each study sub-area encompassing known waste disposal areas as shown on Figure 2-3 is presented in Table 2-1.

2.4.2 Surface Water Bodies

The study area is drained by two surface water bodies, Hog Run Creek and the Delaware River. Hog Run Creek drains 1.25 square miles of land prior to entering the area south of River Road. Flow in the creek south of River Road also reflects tidal inflow from the Delaware River. Stream channel dimensions, channel and bank characteristics, and land uses adjacent to Hog Run Creek are presented in Table 2-2.

The Delaware River drains large portions of New York, Pennsylvania, and New Jersey prior to reaching the Bristol, Pennsylvania area. The river is tidally influenced as far as Trenton Falls, 15 miles upstream from the study area. The river in the vicinity of Bristol is entirely fresh water. The daily tidal range in this area is 6.5 feet. The river is approximately 2,000 feet wide and has a dredged channel bottom maintained at 40 feet. The average Delaware River flow past the study area is 11,700 cubic feet per second (cfs) based upon flows gauged at Trenton Falls (U.S.G.S.).

TABLE 2-1

FILL AREA STORMWATER DRAINAGE CHARACTERISTICS

Landfill Subarea	Drainage Description
A1	- Sandy soil and low relief minimize surface runoff
	- Ditch inside north fence prohibits runoff to River Road
	- Some temporary shallow ponding due to surface irregularities
	- Surface runoff during heavy storms or frozen ground drains east toward Hog Run Creek
A2	- Sandy soil and low relief minimize surface runoff
	- Any surface drainage is to Hog Run Creek (northeast section) or internal to A3
A3	- Sandy soil and low relief minimize surface runoff
A4	- Any runoff drains internally to a depressed area. With exception of narrow strips on west and east side, there is no offsite surface runoff
B	- Sandy soil and low relief minimize surface runoff
	- Surface runoff during very heavy storms of frozen ground conditions will drain radially away from area
C	- Area drains internally to low-lying area in southeast section
	- Substantial low-lying areas may retain surface runoff during wet periods
	- With exception of narrow strip along Hog Run, there is no offsite surface runoff
D	- Sandy soil and low relief minimize surface water runoff
	- Runoff from impervious surfaces (parking lots, buildings, etc.) to treated water basin 1

* Refers to Figure 2-3

Source: BCM Eastern, Inc.; Project No. 00-4061-02

000033

TABLE 2-2

HOG RUN CREEK DIMENSIONS, CHARACTERISTICS
AND ADJACENT LAND USES

Section	Length (feet)	Distance Upstream from Delaware River (feet)	Adjacent Land Uses	Channel/Characteristics	Comments
Mainstem (Delaware River upstream culver)	1000	0-1000	Landfill, treated wastewater basins	- Channel width 10-80 feet depending upon tidal cycle - Mud flats and narrow channel at low tide - Steep banks - Numerous seeps along banks at low tide - Small fish present - Fine grained unvegetated bottom	- Tidal range 6'±
Mainstem (culvert upstream to branch confluence)	1000	1000-2000	Landfill	- Channel width 10-100 feet depending upon location and tidal cycle - Heavily vegetated fine-grained bottom - No seeps observed - Small fish present	- Old Stonewall along portion of east bank - Tidal range 3'±
West Branch	2200	2000-4200	Woods, cleared area south of Mary Devine School	- Channel generally 2-10'wide - Channel poorly defined in places - Flow generally sluggish	- Tidal influence limited to lower 300± feet
East Branch (confluence w/West Branch to a point 1,000' upstream)	1000	2000-3000	Woods	- Channel width 2-10 feet - Slightly sinuous - Silt and sand bottom - Flow generally sluggish	
East Branch (to headwater)	3200	3000-6200	Woods, stables, residential, industrial	- Channel width 2-10 feet - Silt and sand bottom - Flow generally sluggish	

Source: BCM Eastern, Inc.; Project No. 00-4061-02

A sand and gravel dike constructed by the U.S. Army Corps of Engineers, as part of a river dredged material disposal project, is situated along the river edge, west of Hog Run Creek. Sediments making up the river beach/bank range in size from sand to large boulders. Seeps, typically of tidal streams and rivers, were observed at low tide along the entire 2,000-foot river frontage.

2.5 SOILS

Soils, as shown in Figure 2-9, have been classified by the U.S. Department of Agriculture - Soil Conservation Service (USA-SCS) and are described in Table 2-3. These soils are alluvial and were formed in loamy and/or gravelly alluvial sediments. The soil-building materials were derived from shale, sandstone, quartz, and/or quartzite and some limestone that were transported and deposited by water. Most of these soils have a loam, sandy loam, or gravelly loam solum (upper or surface layer) between 2 and 3 feet thick. The solum is underlain by mixtures of parent material consisting of sand, sand and gravel, and cobbles. A large percentage of the area has been disturbed by construction/excavation and these areas are classified by the USDA-SCS as Urban Lands.

With the exception of the Fallsington, Marsh, and some areas in the Urban complexes, the soils are moderately-well to well-drained. This means that water (i.e., precipitation) moves readily downward through the soil.

2.6 AIR BASIN

The study area is within the air basin designated as Region I by the Pennsylvania Department of Environmental Resources (PADER) and more commonly known as the Southeast Pennsylvania Air Basin. The area is currently designated as an attainment area for particulates and sulfur dioxide and non-attainment for ozone. A sampling location in Bristol is currently included in the Commonwealth of Pennsylvania Air Monitoring System (COPAMS).

The prevailing wind direction for the summer months is from the southwest, while northwesterly winds prevail during the winter. The annual prevailing direction is from the west-southwest.

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TABLE 2-3

SUMMARY OF REPORTED SOIL CHARACTERISTICS *
(Refers to Figure 2-9)

	Soil Series					
	Pope Loam	Alton Gravelly Loam	Fallsington Silt Loam	Marsh	Urban Loam	Urban Land Howell Complex
Map Symbol	PpA	Aga	Fa	Mh	Ub	Uh
Texture	Loam and Sandy Loam	Loam and Gravelly Loam	Silt Loam and Gravelly Loam	Loam/clay Organic Matter	variable	Loam and Gravelly loam
Drainage Classification	well drained	well drained	poorly drained	poorly drained	variable	well drained
Slope (percent)	0 - 3	0 - 3	0 - 3	---	0 - 8	0 - 15
Typical Solum Thickness (inches) **	40 - 50	24 - 40	52	Variable	Variable	Variable
Depth to Seasonal High Water Table (feet)	>3	>5	0 - 0.5	0.1	---	---
pH (units)	5.5 - 6.5	5.1 - 6.0	4.5 - 5.5	5.6 - 6.5	---	---

* Source: USDA-SCS Soil Survey for Bucks and Philadelphia Counties, 1975
** BCM field investigation determination

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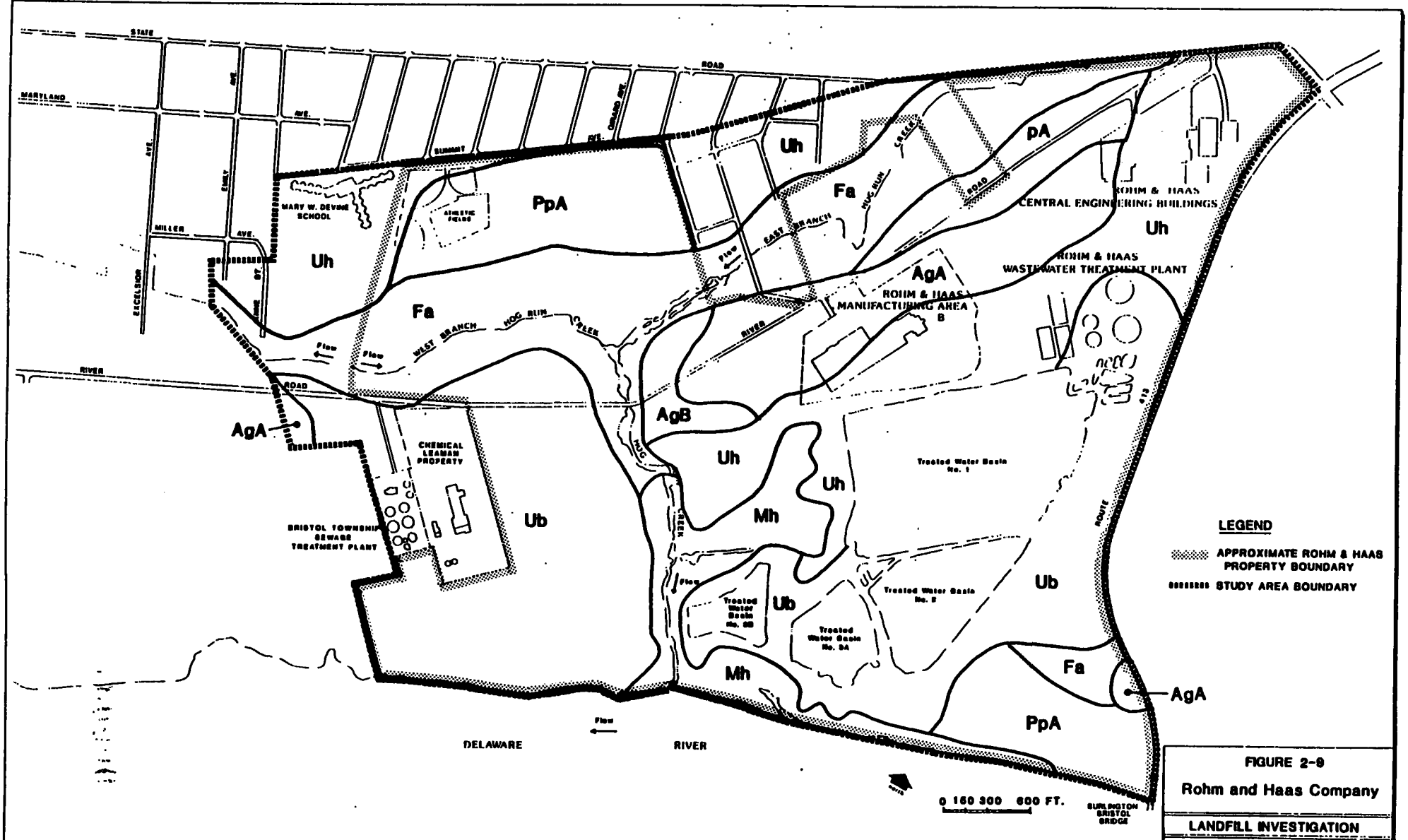

FIGURE 2-9

Rohm and Haas Company

LANDFILL INVESTIGATION

Soil Map

SOURCE: USDA-SCS Soil Survey of Bucks and Philadelphia Counties, 1975.

BCM PROJECT NO. 00-4061-02
APRIL 1984

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TABLE OF CONTENTS

		Page
3.0	ENVIRONMENTAL SAMPLING PROGRAM	3-1
3.1	General	3-1
3.2	Groundwater Monitoring Wells	3-2
3.2.1	Well Installation	3-2
3.2.2	Sampling Protocol	3-2
3.2.3	Analytical Parameters	3-7
3.2.4	Existing Water Supply Wells	3-11
3.3	Surface Water and Sediments	3-11
3.3.1	Sampling Locations and Protocol	3-11
3.3.2	Analytical Parameters	3-13
3.4	Soils	3-13
3.4.1	Sampling Locations and Protocol	3-13
3.4.2	Analytical Parameters	3-17
3.5	Air Quality	3-17
3.5.1	Test Locations and Sampling Protocol	3-17
3.5.2	Analytical Parameters	3-17

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3.0 ENVIRONMENTAL SAMPLING PROGRAM

3.1 GENERAL

A four-component investigative program was developed as described below:

1. Groundwater - Groundwater monitoring wells were initially placed at intervals along the perimeter of the known waste disposal areas to determine the volume and characteristics of groundwater leaving the site. Evaluation of the data obtained indicated that groundwater moves in several directions. Therefore, the entire circumference of the study area was monitored. Additional monitoring wells were installed north of River Road and at other key locations. Sets of two wells (couplets) or three wells (triplets) were installed in several locations to monitor groundwater both immediately below the water table, immediately above weathered bedrock, or in bedrock, to provide a vertical quality profile.

2. Surface Water - Water and sediment samples were taken in Hog Run Creek and the Delaware River. Also, long-term Delaware River water quality data were obtained from the U.S. Geological Survey.

3. Soil - Soil samples were taken from the Mary Devine School grounds, the ballfields adjacent to the school, the large wooded area east of the ballfields and north of River Road, the Bristol Township Sewage Treatment Plant property, the former site of the Bucks County Mosquito Control Commission, and the Maple Beach area. All of these areas are presently owned, or were formerly owned, by the Rohm and Haas Company, however, only the sewage treatment plant is on land which was part of the landfill.

4. Air - Air samples were taken at the surface of the landfill and from six permanent monitoring stations located on the main perimeter of the known waste disposal area. In addition, a mobile chemical analysis unit was used to obtain air samples from both perimeter as well as landfill locations.

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3.2 GROUNDWATER MONITORING WELLS

3.2.1 Well Installation

The landfill groundwater monitoring system consists of 57 groundwater monitoring wells and 7 piezometers as shown in Figure 3-1. Nine of these wells were installed prior to 1980. Table 3-1 provides a summary of well details and installation dates.

Forty-two of the forty-eight monitoring wells installed in this program were drilled by the mud-rotary method. The other six wells were drilled with a hollow-stem auger. Split-spoon sampling of the aquifer material was conducted in 24 wells. The presence of coarse gravel in these wells often impeded obtaining representative split-spoon samples. Shelby tube samples of the saprolitic bedrock were taken in wells LF-6A and CR-12A to enable laboratory measurement of the hydraulic conductivity of the underlying saprolite.

The typical monitoring well installation procedure consisted of drilling each well to the specified depth and inserting a 4-inch inside diameter (ID) Schedule 40 PVC factory-manufactured slotted well screen coupled to 4-inch ID Schedule 40 PVC casing into the 8- to 10-inch nominal diameter drilled holes. PVC caps were attached to the well bottoms. The screening, casing, and bottom caps were attached with a screw-type coupling or by stainless steel screws inserted through a non-screw-type coupling. No glue was used to join the screening, coupling, or bottom caps. Figure 3-2 shows the profile of a typical monitoring well.

The annulus (void between well casing or screen and the earthen side of the well hole) was filled with a coarse silica sand pack to 1 foot above the screen, followed by a 1-foot-thick bentonite pellet seal, above which cement grout was emplaced to grade. A locking protective steel casing was inserted 3 feet into the grouted annulus. The wells were surged with compressed air until clear water was yielded. The drilling equipment was cleaned with steam or high pressure water prior to drilling each well.

Drilling logs, describing the materials encountered and construction details of each well are contained in Appendix E.

3.2.2 Sampling Protocol

The initial 37 groundwater monitoring wells were sampled by a team of BCM technicians and hydrogeologists between October 25, and November 4, 1983. The additional 20 wells were sampled between February 6, and February 24, 1984. Prior to sampling, the wells were pumped with a gasoline-powered suction pump through a length of dedicated suction hose to

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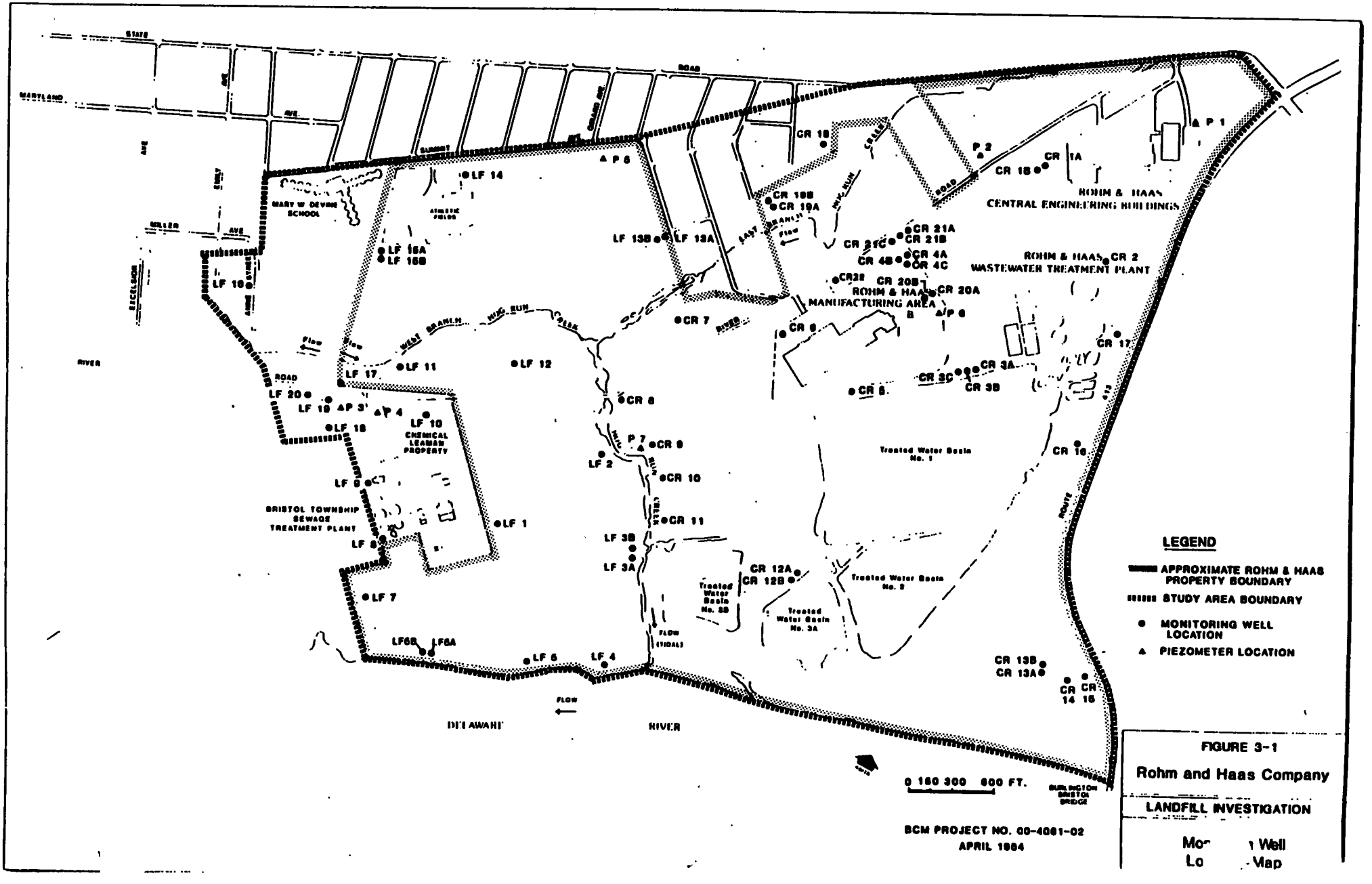

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APRIL 1984

FIGURE 3-1
Rohm and Haas Company
LANDFILL INVESTIGATION
Mon 1 Well
Lo Map

TABLE 3-1

LANDFILL INVESTIGATION - GROUNDWATER MONITORING WELL INFORMATION

Well Number	Date Installed	Total Well Depth Below Ground Surface (feet)	Screened Interval Below Ground Surface (feet)	Datum: Mean Sea Level				Depth to Water Table From Protective Steel Casing Top (feet)
				Protective Steel Casing Top Elevation (feet)	PVC Casing Top Elevation (feet)	Ground Elevation (feet)	Water Table * Elevation (feet)	
CR-1A	01/26/84	50	40-50	23.10	22.75	21.18	10.92	12.18
CR-1B	10/17/83	27	17-22	24.06	23.53	20.85	10.80	12.26
CR-2	10/12/83	27	17-27	22.48	22.10	19.77	10.29	12.19
CR-3A	10/12/83	45	30-45	23.49	23.14	20.87	10.75	12.74
CR-3B	10/21/83	22	12-22	23.57	23.18	20.82	10.78	12.79
CR-3C	02/01/84	70	60-70	23.34	22.96	20.89	10.75	12.34
CR-4A	10/10/83	50	30-50	19.26	18.91	16.07	11.33	7.93
CR-4B	10/11/83	20	10-20	19.05	18.64	16.19	11.39	7.66
CR-4C	02/22/84	90	80-90	19.33	18.75	16.67	11.54 **	7.79
CR-5	10/12/83	27	7-27	21.69	21.27	19.22	10.50	11.19
CR-6	10/07/83	20	5-20	17.58	17.15	14.98	10.74	6.84
CR-7	10/14/83	20	10-20	18.92	18.33	16.91	8.26	10.66
CR-8	12/05/79	19.9	3-17	14.25	***	11.34	6.73	7.52
CR-9	10/03/83	25	5-25	13.98	13.60	10.98	7.28	6.70
CR-10	10/05/83	27	7-27	13.62	13.26	10.44	4.67	8.95
CR-11	12/06/79	17.7	2-16	11.17	***	7.86	5.42	5.75
CR-12A	10/19/83	40	35-40	14.91	14.37	12.63	4.46	10.45
CR-12B	10/24/83	20	10-20	14.55	14.17	12.17	4.51	10.04
CR-13A	09/28/83	32.5	22.5-32.5	12.69	12.12	9.80	4.53	8.16
CR-13B	NA	18	NA	10.48	NA	9.81	3.61	6.87
CR-14	NA	23	NA	14.14	NA	10.33	4.56	9.58
CR-15	NA	13	NA	9.26	NA	5.89	4.57	4.69
CR-16	12/16/83	28.5	13.5-28.5	10.19	9.72	8.01	5.19	5.00
CR-17	12/20/83	29.5	9.5-29.5	22.84	22.50	20.72	9.85	12.99
CR-18	01/30/84	55	45-55	31.24	30.91	29.19	11.92	19.32
CR-19A	01/31/84	37	27-37	12.35	11.92	10.18	11.89	0.46
CR-19B	02/06/84	15	10-15	11.98	11.49	10.26	10.13	1.85
CR-20A	02/09/84	38	28-38	21.39	20.43	18.49	11.21	10.16

000041

TABLE 3-1 (Continued)

Well Number	Date Installed	Total Well Depth Below Ground Surface (feet)	Screened Interval Below Ground Surface (feet)	Datum: Mean Sea Level				Depth to Water Table From Protective Steel Casing Top (feet)
				Protective Steel Casing Top Elevation (feet)	PVC Casing Top Elevation (feet)	Ground Elevation (feet)	Water Table * Elevation (feet)	
CR-20B	02/09/84	22	7-22	20.43	20.49	18.47	10.14	10.22
CR-21A	01/31/84	38	28-38	16.81	15.86	14.19	11.52 ****	5.19
CR-21B	02/10/84	17	2-17	16.80	16.15	14.33	11.99 ****	4.83
CR-21C	02/17/84	27.5	17.5-27.5	16.88	16.14	14.54	11.17 ****	5.71
CR-22	02/21/84	18	8-18	16.52	15.86	14.07	11.94 ****	4.58
LF-1	07/01/83	25	15-25	22.96	22.49	20.07	10.80	12.16
LF-2	07/01/83	12.5	6-12.5	17.95	17.80	14.40	9.95	8.0
LF-3A	10/18/83	50	40-50	21.49	21.05	19.03	3.33	18.16
LF-3B	12/07/79	27.6	12-26	22.06	***	19.01	6.46	15.60
LF-4	12/07/79	24.3	7-21	18.33	***	14.51	4.32	14.01
LF-5	12/11/79	27.4	11-25	14.71	***	12.51	1.28	13.43
LF-6A	10/24/83	55	45-55	31.40	31.02	28.90	0.81	30.59
LF-6B	10/25/83	26	16-26	31.87	31.39	29.13	5.30	26.57
LF-7	12/06/79	32.9	16-30	16.21	***	14.05	5.71 *****	10.50
LF-8	10/20/83	18	8-18	15.49	14.96	13.05	9.20	6.29
LF-9	10/19/83	20	10-20	17.31	17.03	15.37	10.18	7.13
LF-10	07/01/83	20	4-20	21.60	21.34	19.21	11.48	10.12
LF-11	10/06/83	20	10-20	14.26	13.92	11.39	10.31	3.95
LF-12	07/01/83	13	3-13	20.76	20.43	17.85	9.95	10.81
LF-13A	01/12/84	43	33-43	18.79	18.44	16.70	11.99	6.80
LF-13B	10/14/83	18	8-18	19.78	19.36	16.95	11.32	8.46
LF-14	10/13/83	20	10-20	21.70	21.18	19.05	11.97	9.73
LF-15A	01/10/84	37	27-37	18.79	17.36	16.20	11.23	7.56
LF-15B	10/13/83	26	6-26	18.46	18.06	15.90	10.90	7.26
LF-16	01/17/84	37	27-37	14.38	14.10	12.44	10.05	4.3
LF-17	01/24/84	18	13-18	18.48	18.13	16.04	10.99	7.49
LF-18	01/25/84	15.5	5.5-15.5	16.14	15.53	13.10	11.63	4.51
LF-19	01/25/84	18	8-18	19.75	18.90	17.22	11.62	8.13
LF-20	01/26/84	22.5	12.5-22.5	24.16	23.55	21.89	11.82	12.34

TABLE 3-1 (Continued)

Well Number	Date Installed	Total Well Depth Below Ground Surface (feet)	Screened Interval Below Ground Surface (feet)	Datum: Mean Sea Level				Depth to Water Table From Protective Steel Casing Top (feet)
				Protective Steel Casing Top Elevation (feet)	PVC Casing Top Elevation (feet)	Ground Elevation (feet)	Water Table * Elevation (feet)	
Piezometers								
P-1	12/14/83	25	20-25	21.27	21.06	18.93	10.81	10.46
P-2	12/14/83	10	5-10	12.28	12.02	10.79	10.78	1.50
P-3	12/15/83	18	13-18	16.58	16.25	14.36	11.47	5.11
P-4	12/15/83	16	11-16	17.55	17.40	15.97	13.55	4.00
P-5	12/14/83	20	15-20	30.26	30.14	28.04	12.42	17.84
P-6	12/15/83	20	15-20	21.94	21.73	19.97	11.10	10.82
P-7	12/13/83	21	16-21	13.55	13.30	11.14	7.22	6.33

NA = Not available
* Water table elevation 02/17/84, unless otherwise noted
** Water table elevation 03/05/84
*** Protective steel casing threaded to PVC casing
**** Water table elevation 02/24/84
***** Water table elevation 11/03/83

Source: BCM Eastern, Inc.; Project No. 00-4061-02

000043

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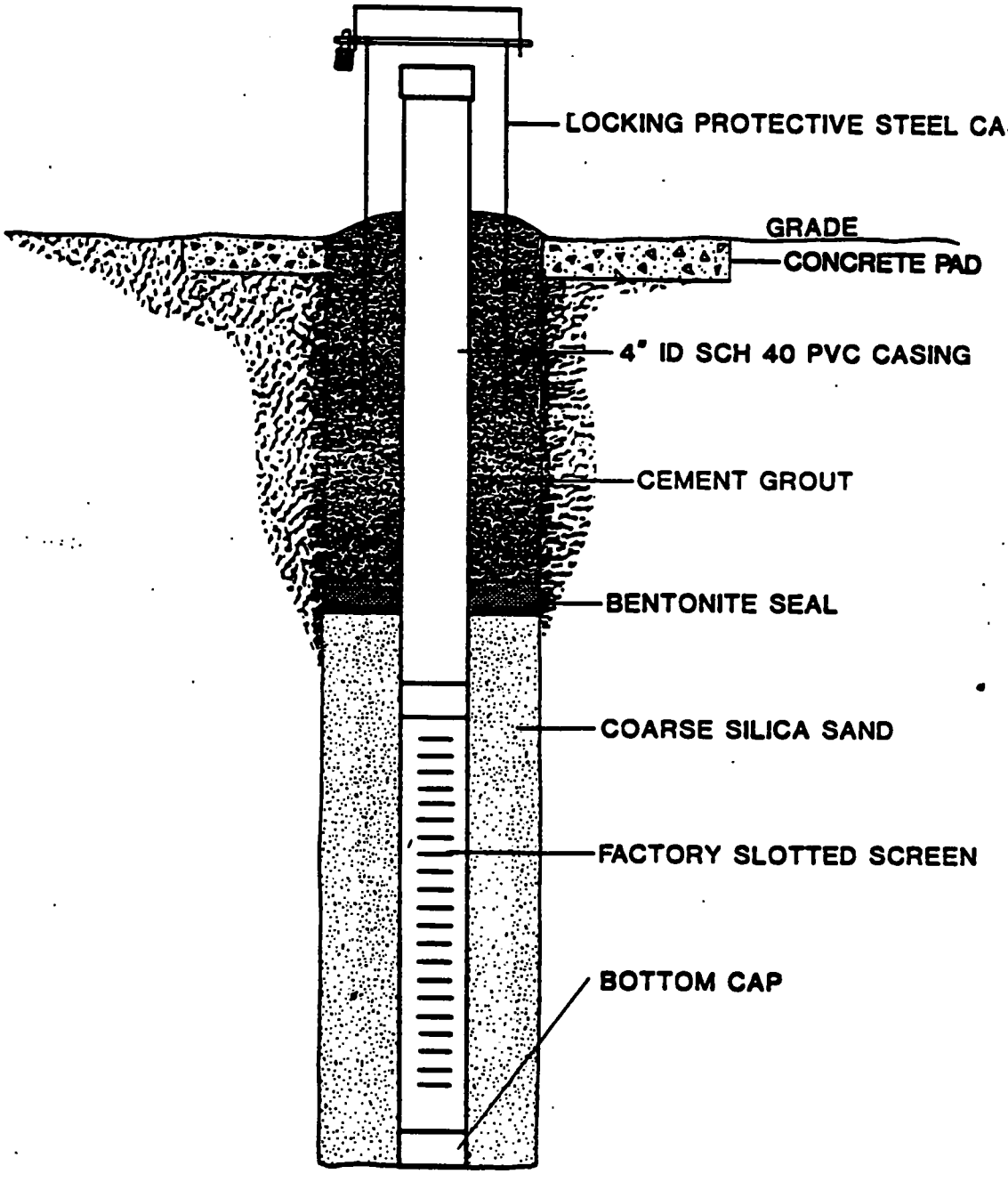

FIGURE 3-2

TYPICAL MONITORIN(WELL PROFILE

Rohm and Haas Company

000044

APRIL 1984
LANDFILL INVESTIGATION
BCM PROJECT NO. 00-4061-02

evacuate several well volumes of water from each well to ensure that fresh representative groundwater was obtained. Two wells, CR-3C and CR-4C, were pumped with an electric submersible pump. After pumping, a Teflon bailer was used to obtain the samples. Sample water for nonvolatile analyses was pressure-filtered (0.45-um pore size) in the field into sample containers pre-fixed with the necessary sample preservatives. (The BCM laboratory sample preservation protocol is contained in Appendix F). Field-filtering was conducted to minimize interference in analytical procedures by removing sediments suspended in the sample water which may release cations upon exposure to the sample fixing agents. The sampling bailer and field filter were cleansed between sampling in accordance with BCM's sampling protocol, as described in Appendix G, to prevent cross-contamination of well water. Field and travel sample blanks were used during monitoring well sampling to provide quality assurance.

3.2.3 Analytical Parameters

Those parameters selected for groundwater analysis were divided into the six categories described below. The parameters are listed in Table 3-2 along with the analytical methods used; and are discussed below.

Category 1, Indicators

These parameters are commonly used indicators of water quality problems related to the presence of organic or inorganic compounds.

Category 2, Inorganics

Category 2 parameters are general inorganic compounds and elements not included on the EPA's priority pollutant list. These parameters include inorganic compounds and elements that were raw materials, products, and by-products of the Rohm and Haas manufacturing operations. Several parameters, such as sodium, potassium, and chloride, are general indicators of the presence of inorganic compounds.

Category 3, Organics

Category 3 contains organic compounds not included on the EPA's priority pollutant list which were raw materials, products, or byproducts of the Rohm and Haas manufacturing operations. The oil and grease parameter contains a sum of all oils and fats, either natural or synthetic. MBAS includes surfactants (detergents).

000045

TABLE 3-2

ANALYTICAL METHODS USED FOR ANALYSIS OF GROUNDWATER SAMPLES

Parameter	EPA Method #	Description of Method
Category 1		
TOC	415.1	Combustion infrared method
TOX	450.1	Combustion electrotitration
BOD_5	405.1	Winkler or electrode method (Azide modification)
COD	415.1	Dichromate reflux
Specific Conductance	120.1	Wheatstone bridge conductimetry
pH	150.1	Electrometric measurement
Category 2		
Ammonia	350.(1-2)	Manual distillation (at pH 9.5) followed by nesslerization, titration or electrode
Boron	404A	Colorimetric (curcumin)
Chloride	325.3	Mercuric Nitrate
Fluoride	340.2	Distillation followed by ion electrodes SPADNS
Iron	236.1	Digestion followed by atomic absorption
Nitrate	353.3	Brucine sulfate manual
Phosphate	365.2	Disulfate digestion and ascorbic acid
Sulfate	BCM Method	Ion chromatograph
Sodium	273.1	Digestion followed by atomic absorption or by flame photometric
Potassium	258.1	Digestion followed by atomic absorption or by flame photometric
Tin	282.1	Digestion followed by atomic absorption
Barium	208.1	Digestion followed by atomic absorption
Sulfide	427D Standard Methods	Iodometric titration
Manganese	243.1	Digestion followed by atomic absorption
Category 3		
Oil and grease	413.1	Liquid-liquid extraction with trichloro-trifluoro-ethane-gravimetric
MBAS	425.1	Colorimetric
MEK	Special BCM Method	Gas chromatography
Isobutyl alcohol	Special BCM Method	Gas chromatography
n-Butyl alcohol	Special BCM Method	Gas chromatography
Isopropyl alcohol	Special BCM Method	Gas chromatography
Ethanol	Special BCM Method	Gas chromatography
Butyl methacrylate	Special BCM Method	Gas chromatography
Methyl methacrylate	Special BCM Method	Gas chromatography
Ethyl acrylate	Special BCM Method	Gas chromatography
Butyl acrylate	Special BCM Method	Gas chromatography
Styrene	Special BCM Method	Gas chromatography
Acetone	Special BCM Method	Gas chromatography
Ethyl acetate	Special BCM Method	Gas chromatography
Cellosolve acetate	Special BCM Method	Gas chromatography
Butyl cellosolve	Special BCM Method	Gas chromatography
Dithane	Rohm and Haas Method	Gas chromatography
Lethane	Rohm and Haas Method	Gas chromatography
Karathane	Rohm and Haas Method	Gas chromatography
DNCP	Rohm and Haas Method	Gas chromatography
Xylene	602	Gas chromatography
Category 4		
Volatile organics	624	Gas Chromatography/Mass Spectroscopy
Chloromethane		
Bromomethane		
Vinyl chloride		
Chloroethane		
Methylene chloride		
Trichlorofluoromethane		
1,1-Dichloroethylene		
1,1-Dichloroethane		
trans-1,2-Dichloroethylene		
Chloroform		
1,2-Dichloroethane		
1,1,1-Trichloroethane		
Carbon tetrachloride		
Bromodichloromethane		
1,2-Dichloropropane		
trans-1,3-Dichloropropylene		
Trichloroethylene		

000046

Table 3-2 (Continued)

Parameter	EPA Method #	Description of Method
Dibromochloromethane and/or 1,1,2-Trichloroethane and/or cis-1,3-Dichloropropylene		
Bromoform		
1,1,2,2-Tetrachloroethane and/or Tetrachloroethylene		
Chlorobenzene		
Benzene		
Toluene		
Chlorobenzene		
Ethylbenzene		
1,2-Dichlorobenzene		
1,3-Dichlorobenzene		
1,4-Dichlorobenzene		
Base neutrals	625	Gas Chromatography/Mass Spectroscopy
N-Nitroso-dimethylamine		
bis(2-Chloroethyl) Ether		
1,3-Dichlorobenzene		
1,4-Dichlorobenzene		
1,2-Dichlorobenzene		
bis(2-Chloroisopropyl) ether		
Hexachloroethane		
N-Nitroso-di-n-Propylamine		
Nitrobenzene		
Isophorone		
bis(2-Chloroethoxyl) methane		
1,2,4-Trichlorobenzene		
Naphthalene		
Hexachlorobutadiene		
Hexachlorocyclopentadiene		
2-Chloronaphthalene		
Dimethylphthalate		
Acenaphthylene		
2,6-Dinitrotoluene		
Acenaphthene		
2,4-Dinitrotoluene		
Diethyl phthalate		
Fluorene		
4-Chlorophenyl phenyl ether		
N-Nitroso-Diphenylamine		
1,2-Diphenylhydrazine (Azobenzene)		
4-Bromophenyl phenyl ether		
Hexachlorobenzene		
Phenanthrene		
Anthracene		
Di-n-Butyl phthalate		
Fluoranthene		
Benzidine		
Pyrene		
Butylbenzylphthalate		
Benzo(a)anthracene		
3,3'-Dichlorobenzidine		
Chrysene		
bis(2-Ethylhexyl) phthalate		
Di-n-octyl phthalate		
Benzo(b)fluoranthene		
Benzo(k)fluoranthene		
Benzo(a)pyrene		
Indeno(1,2,3-c,d)pyrene		
Dibenzo(a,h)anthracene		
Benzo(g,h,i)perylene		

000047

Table 3-2 (Continued)

Parameter	EPA Method #	Description of Method
Acid extractables	625	Gas Chromatography
Phenol		
2-Chlorophenol		
2-Nitrophenol		
2,4-Dimethylphenol		
2,4-Dichlorophenol		
p-Chloro-m-cresol		
2,4,6-Trichlorophenol		
2,4-Dinitrophenol		
4-Nitrophenol		
4,6-Dinitro-o-cresol		
Pentachlorophenol		
PCB/Pesticides	608	Gas Chromatography
Aldrin		
Alpha-BHC		
Beta-BHC		
Gamma-BHC		
Delta-BHC		
Chlordane		
4,4'-DDT		
4,4'-DDE		
4,4'-DDD		
Dieldrin		
Endosulfan I		
Endosulfan II		
Endosulfan Sulfate		
Endrin		
Endrin Aldehyde		
Heptachlor		
Heptachlor Epoxide		
PCB-1242		
PCB-1252		
PCB-1221		
PCB-1232		
PCB-1248		
PCB-1260		
PCB-1016		
Toxaphene		
Phenols	420.1	Colormetric
Cyanide	335.1	Distillation followed by silver nitrate titration
Antimony	204.1	Digestion followed by atomic absorption
Arsenic	206.2	Digestion followed by atomic absorption
Beryllium	210.1	Digestion followed by atomic absorption
Cadmium	213.2	Digestion followed by atomic absorption
Chromium	218.2	Digestion followed by atomic absorption
Copper	220.1	Digestion followed by atomic absorption
Mercury	245.5	Digestion followed by atomic absorption
Lead	239.2	Digestion followed by atomic absorption
Selenium	270.2	Digestion followed by atomic absorption
Silver	272.2	Digestion followed by atomic absorption
Thallium	279.1	Digestion followed by atomic absorption
Zinc	289.1	Digestion followed by atomic absorption
Nickel	249.1	Digestion followed by atomic absorption
Herbicides		
2-4 D	509B standard methods	Gas chromatograph
2,4,5 TP	509B standard methods	Gas chromatograph
Category 5		
Gross alpha		
Gross bata		
Total radium		
Category 6		
Dioxin (2,3,7,8-TCDD)		Gas chromatograph/Mass spectroscopy

000048

Category 4, Priority Pollutants and Herbicides

Category 4 includes the list of 128 inorganic and organic compounds and elements which are on the EPA priority pollutant list. This list includes volatile, base neutral, and acid extractable organic compounds, pesticides, PCBs, metals, phenols, and cyanide. Selected herbicides also are included in this category.

Category 5, Radioactivity

Category 5 is a scintillation count for gamma, beta, and alpha radioactive materials.

Category 6, Dioxin

Category 6 is dioxin (2,3,7,8-TCDD) analyzed in six (6) landfill perimeter wells only.

3.2.4 Existing Water Supply Wells

Rohm and Haas utilizes five high-capacity groundwater wells during the warmer months to obtain production and cooling water. These supply wells, which range from 55 to 90 feet in depth, tap the highly permeable unconsolidated alluvial aquifer and are located in manufacturing areas A and C and near Maple Beach.

Samples from these wells were analyzed to determine whether the Rohm and Haas landfill has affected the quality of groundwater withdrawn by the wells.

The Rohm and Haas production wells were sampled immediately after pumping several well volumes of water so that the samples represented fresh groundwater. The spigot nearest to the well was used to draw the samples. The samples were collected directly into the sample containers chilled in ice chests, and delivered to BCM's laboratory for analysis. The production well samples were not field filtered due to the high degree to which the wells were developed, i.e., clean and free of sediment, and because the production well water is used as-is.

3.3 SURFACE WATER AND SEDIMENTS

3.3.1 Sampling Locations and Protocol

Surface water and sediment samples were obtained upstream, within the influence of, and downstream from the known waste disposal areas. Representative seeps were also sampled. Sampling station locations are listed in Table 3-3 and shown in Figure 3-3. Nine surface water, six seeps, and

000049

TABLE 3-3

SURFACE WATER AND SEDIMENT SAMPLING STATIONS

Sample No.	Location
	DELAWARE RIVER
DRW1	- Delaware River - just above Trenton Falls.
DRW2	- Delaware River - Pennsylvania Fish Commission Bristol Access Area
DRW3	- Delaware River - Croydon Marina off River Road
DRSP1	- Seep from Delaware River bank close to Well #LF6
	HOG RUN CREEK
HRW1	- Hog Run - East Branch
HRW2	- Hog Run - West Branch
HRW3	- Hog Run at River Road Culvert
HRW4	- Drainage ditch between north rim of landfill and River Road (still water) (tributary of Hog Run)
HRW5	- Hog Run - left side - by well CR10
HRW6	- Hog Run at culvert under Landfill Road
HRW7	- Hog Run at drop off ± 150' upstream of Delaware River (low tide)
HRSP1	- Seep from Hog Run bank - left side - by well CR8
HRSP2	- Seep from Hog Run bank - right side - by well LF13
HRSP3	- Seep from Hog Run bank - right side - south of well LF3
HRSD1	- Hog Run stream bottom sediment at River Road culvert
HRSD2	- Hog Run stream bottom sediment - left side - by well CR9
HRSD3	- Hog Run bottom sediment at drop off ± 150' upstream of Delaware River (low tide)
	WEST BRANCH HOG RUN CREEK
WBHRC-1	- Seep from south bank of the west branch of Hog Run Creek 140 feet northeast of well LF-11
WBHRC-2	- Channel flow of the west branch of Hog Run Creek 100 feet downstream of small bridge 400 feet west of the former Mosquito Commission facility site.
WBHRC-3	- Seep from south bank of the west branch of Hog Run Creek 180 feet upstream of the small bridge near the former Mosquito Commission facility site.
WBHRC-4	- Seep from south bank of the west branch of Hog Run Creek 60 feet north of River Road opposite the Bristol Township Sewage Treatment Plant
WBHRC-5	- Channel flow at the extreme west end (head water) of the west branch of Hog Run Creek
	UNNAMED BRANCH
UNB-1	- Seep from north bank of unnamed branch 100 feet southwest of the southern terminus of Anne Street
UNB-2	- Seep from south bank of unnamed branch 200 feet southeast of the southern terminus of Anne Street
UNB-3	- Channel flow from unnamed branch 150 feet downstream of headwater

000050

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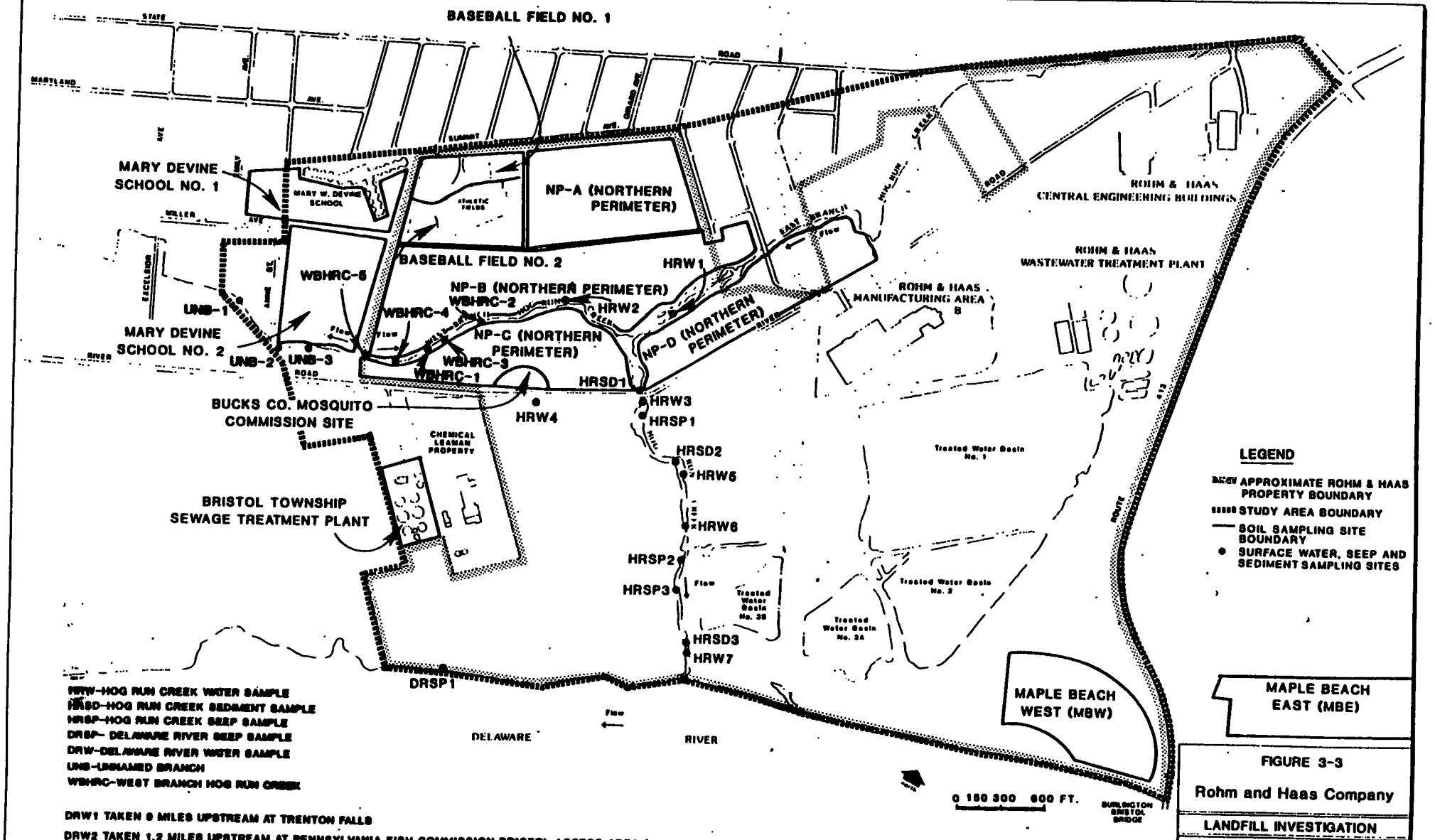

HRW–HOG RUN CREEK WATER SAMPLE
HRSD–HOG RUN CREEK SEDIMENT SAMPLE
HRSP–HOG RUN CREEK SEEP SAMPLE
DRSP– DELAWARE RIVER SEEP SAMPLE
DRW–DELAWARE RIVER WATER SAMPLE
UNB–UNNAMED BRANCH
WBHRC–WEST BRANCH HOG RUN CREEK

DRW1 TAKEN 9 MILES UPSTREAM AT TRENTON FALLS
DRW2 TAKEN 1.2 MILES UPSTREAM AT PENNSYLVANIA FISH COMMISSION BRISTOL ACCESS AREA (BRISTOL WHARF)
DRW3 TAKEN 0.6 MILES DOWNSTREAM AT CROYDON MARINA OFF OF RIVER ROAD

BCM PROJECT NO. 00-4061-02
APRIL 1984

FIGURE 3-3
Rohm and Haas Company
LANDFILL INVESTIGATION
Surface Water, Seep, Sediment and Soil Sampling Locations

three sediment samples were obtained along Hog Run Creek. Three Delaware River samples were obtained at stations used for previous Delaware River sampling, along with a composite of several seeps along the Delaware River shoreline. One surface water and two seep samples were obtained along the unnamed branch flowing west from the headwater area of the west branch of Hog Run Creek.

River dredge sediments were used as cover material. With a few minor exceptions, there are no wastes on the landfill surface. As a consequence, stormwater surface runoff does not come in contact with wastes or waste constituents. Therefore, stormwater runoff sampling and analysis was not included.

Fifteen samples were obtained for each surface water sampling station and seep. The samples were each split up into 16 different containers, preserved as appropriate, put into coolers with ice, and transported to BCM's laboratory in Norristown, Pennsylvania the same day. The surface water and seep samples were obtained using a glass beaker, and water was poured into sample containers. Sample water for volatile organics analysis was obtained by submerging the sample vial. The sediment samples were collected in six wide-mouth glass pint and one plastic 1/2-gallon containers using an Eckman grab sampler and/or a stainless steel trowel. All sampling equipment was cleaned between sampling stations using BCM's standard protocol (Appendix G). Sampling along the Delaware River and the main stem of Hog Run Creek was conducted on November 22 and 23, 1983, and along the west branch of Hog Run Creek and the unnamed branch on February 23, 1984.

3.3.2 Analytical Parameters

Analytical parameters for the November sampling were the same as those used in the groundwater evaluation (section 3.2.3), with the additional parameter of temperature and with the exception of dioxin (category 6). The analysis of the February samples were limited to volatile organics and selected parameters from categories 2 and 3.

3.4 SOILS

3.4.1 Sampling Locations and Protocol

Rohm and Haas formerly owned the properties which are now owned by the Bristol Township School District (Mary Devine School), and the Bristol Township Utilities Authority (sewage treatment plant and yard). Additionally, Rohm and Haas owns property east of the school used for ballfields, the wooded area east of the school and north of River Road, and an area once occupied by the Bucks County Mosquito Control Commission north of River Road.

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TABLE 3-4

STREAM SAMPLING FIELD DATA

Location	Date	Time	Temperature (°F)	pH (std. units)	Specific Conductance (micromhos)
DRW1	11/23/83	08:45	46	6.9	125
DRW2	11/23/83	09:30	48	6.9	140
DRW3	11/23/83	10:20	48	7.0	148
DRSP1	11/22/83	10:40	57	6.6	292
HRW1	11/23/83	15:05	53	5.7	180
HRW2	11/23/83	15:50	52	5.8	200
HRW3	11/22/83	14:20	57	6.6	242
HRW4	11/23/83	14:30	51	5.9	250
HRW5	11/22/83	13:00	64	6.7	1,520
HRW6	11/22/83	12:10	56	6.6	262
HRW7	11/22/83	09:55	53	8.3	660
HRSP1	11/22/83	13:45	60	6.4	271
HRSP2	11/22/83	09:10	51	6.9	1,050
HRSP3	11/22/83	09:30	52	6.9	1,780
HRSD1	11/23/83	NR	NA	NA	NA
HRSD2	11/23/83	NR	NA	NA	NA
HRSD3	11/23/83	NR	NA	NA	NA
WBHRC-1	02/23/84	10:25	45	NT	1,000
WBHRC-2	02/23/84	09:30	44	NT	145
WBHRC-3	02/23/84	12:10	51	NT	160
WBHRC-4	02/23/84	13:40	42	NT	450 - 1,400
WBHRC-5	02/23/84	14:10	46	NT	60
UNB-1	02/23/84	14:50	47	NT	345
UNB-2	02/23/84	16:10	48	NT	160
UNB-3	02/23/84	16:30	45	NT	155

NA = Not applicable
NT = Not tested
NR = Not recorded
Source: BCM Eastern, Inc.; Project No. 00-4061-02

The areas sampled are shown on Figure 3-3.

Sampling and analytical methodology should include a control (background) in order to form a basis for comparison of "potentially contaminated" areas versus "clean" areas. Therefore, soil samples were collected in the Maple Beach East area to serve as control due to the apparent lack of any industry-related activity.

A more detailed sampling program was implemented for portions of the Bristol Township Sewage Treatment Plant, since unknown waste material appeared to be present on the surface. This sampling effort is depicted schematically on Figure 3-4.

A composite sampling approach was used for surface material characterization, because the areas are large and heterogenous. Composite samples provide a good indication of the presence of contaminants under these conditions.

All surface soil samples were collected by BCM personnel using manually operated 3-inch-diameter stainless steel bucket augers. The four soil borings done at the former Mosquito Control Commission site and the three at the Bristol Township Sewage Treatment Plant were advanced using a combination of split-spoon sampler and air/water rotary boring.

The surface sampling program was conducted between October 26, and November 15, 1983. Table 3-5 summarizes the soil and shallow boring sample collection and analysis protocol.

Sample compositing was done both in the field and at the BCM laboratory. Grab samples collected with the bucket auger were combined in the field to form a composite sample representative of the area being characterized. As shown in Table 3-5, all of these samples were primarily collected from the surface to a depth of approximately 6 inches.

Boring samples from the Mosquito Commission and Bristol Township Sewage Treatment Plant sites were collected in 1-foot increments via a split-spoon sampler. Formation of composite samples for analyses was done in the BCM laboratory based upon appearance of the grab samples collected at each 1-foot depth increment in each boring.

Samples of subsurface and surface waste material were collected from the Bristol Township Sewage Treatment Plant on November 4 and 10, 1983, respectively. Material from each grab sample was combined and mixed as thoroughly as field conditions allowed.

Details of the soil collection procedures are presented in Appendix H.

3.4.2 Analytical Parameters

The analytical parameters used to evaluate soil conditions were the same as those used in the groundwater evaluation (section 3.2.3) except that only soil pH was determined from category 1 since the other parameters are not relevant to soil analyses and no samples were analyzed for dioxin (category 6).

3.5 AIR QUALITY

3.5.1 Test Locations and Sampling Protocol

Initially, the area to be evaluated was separated into an approximate 200-foot square grid system. Grid lines were oriented in roughly north-south and east-west directions, with each grid being assigned a number. In addition, six permanent perimeter sampling stations were established as shown in Figure 3-5. These sites are located approximately 60 degrees apart from the center of the landfill. The location of these sites allows for both an upwind and downwind sampling location on a given day. Finally, TRC Advanced Analytic Inc.'s mobile Trace Atmospheric Gas Analyzer (TAGA) 6000 mass spectrometric measurement system is being utilized to sample specific grid points (Figure 3-6) as well as to conduct perimeter sampling.

Initial grid sampling was conducted on November 9 and 10, 1983. Sampling was conducted with a Foxboro organic vapor analyzer (OVA) utilizing flame ionization detection (FID) and HNU Systems photo-ionization detector (PID). The analyzers were used to identify specific areas emitting organic vapor concentrations equal to twice the background level. (Background levels were determined upwind of the landfill by both instruments.)

The TRC TAGA 6000 system was on site January 9 and 10, 1984, to conduct both perimeter and grid point sampling. The system is equipped with a low pressure chemical ionization source. Figure 3-7 illustrates how samples from the grids were introduced to the ion source in the van. (Bag samples for locations not accessable to the van were connected through Teflon lines to the transfer line.) Finally, samples of ambient air during perimeter sampling were drawn in through the roof sampling inlet at approximately 1.5 liters per second. This flow was then split 1:100 before introduction into the ion source.

The grab samples for the grid areas not accessible by the TAGA van were collected utilizing a sealed bucket with Tedlar bag enclosed. An air sample was drawn through a funnel placed directly on the soil, and connected to a bulkhead fitting by a Teflon line on the bucket side. The Tedlar bag was connected immediately on the opposite side of the bulkhead fitting inside the bucket. A vacuum was drawn on the bucket which in turn pulled ambient air into the Tedlar bag. This arrangement eliminated the possibility of contamination of the sample by the sampling pump. (Refer to Figure 3-8)

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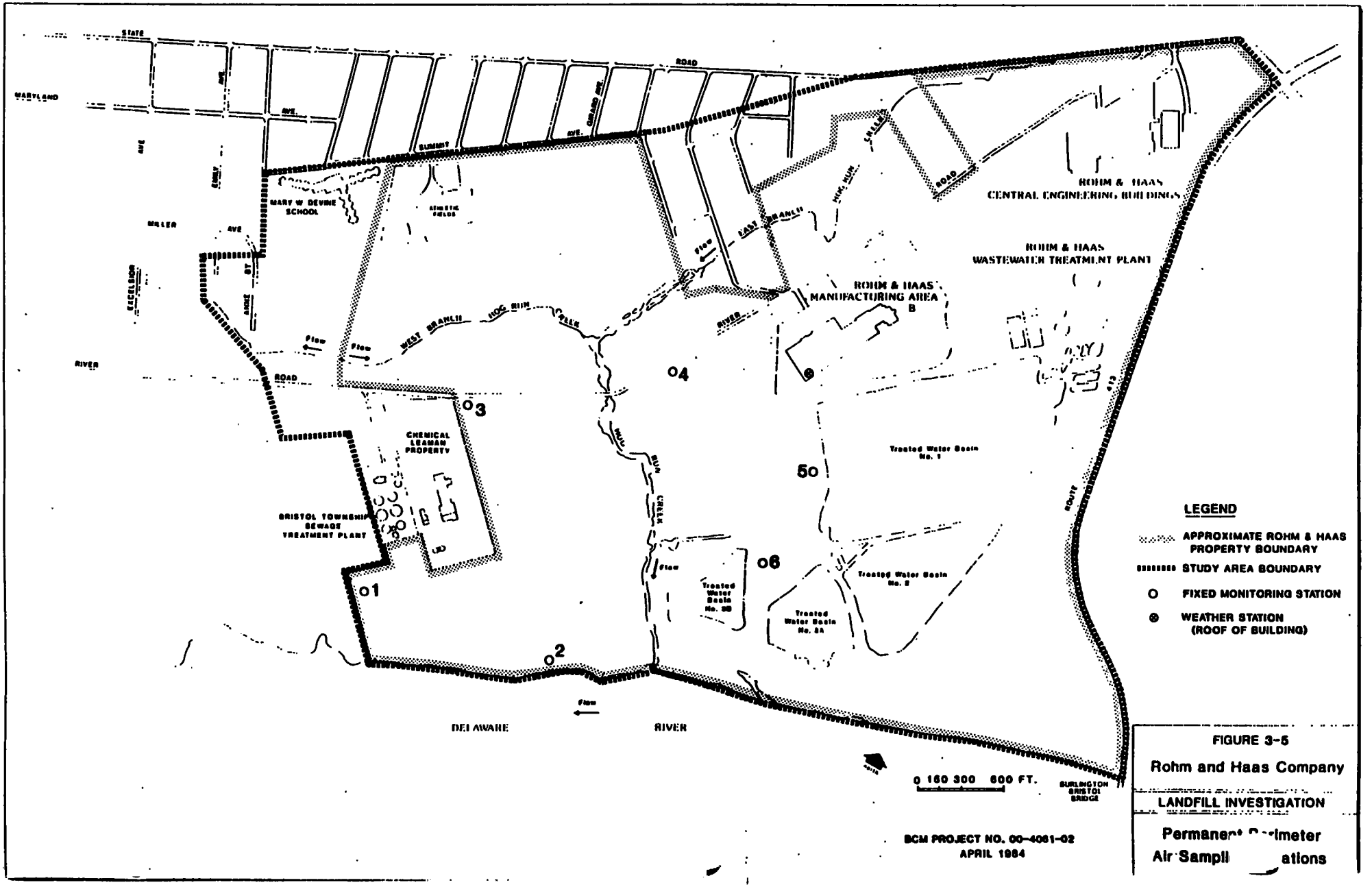

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FIGURE 3-5
Rohm and Haas Company
LANDFILL INVESTIGATION
Permanent Perimeter Air Sampling Locations

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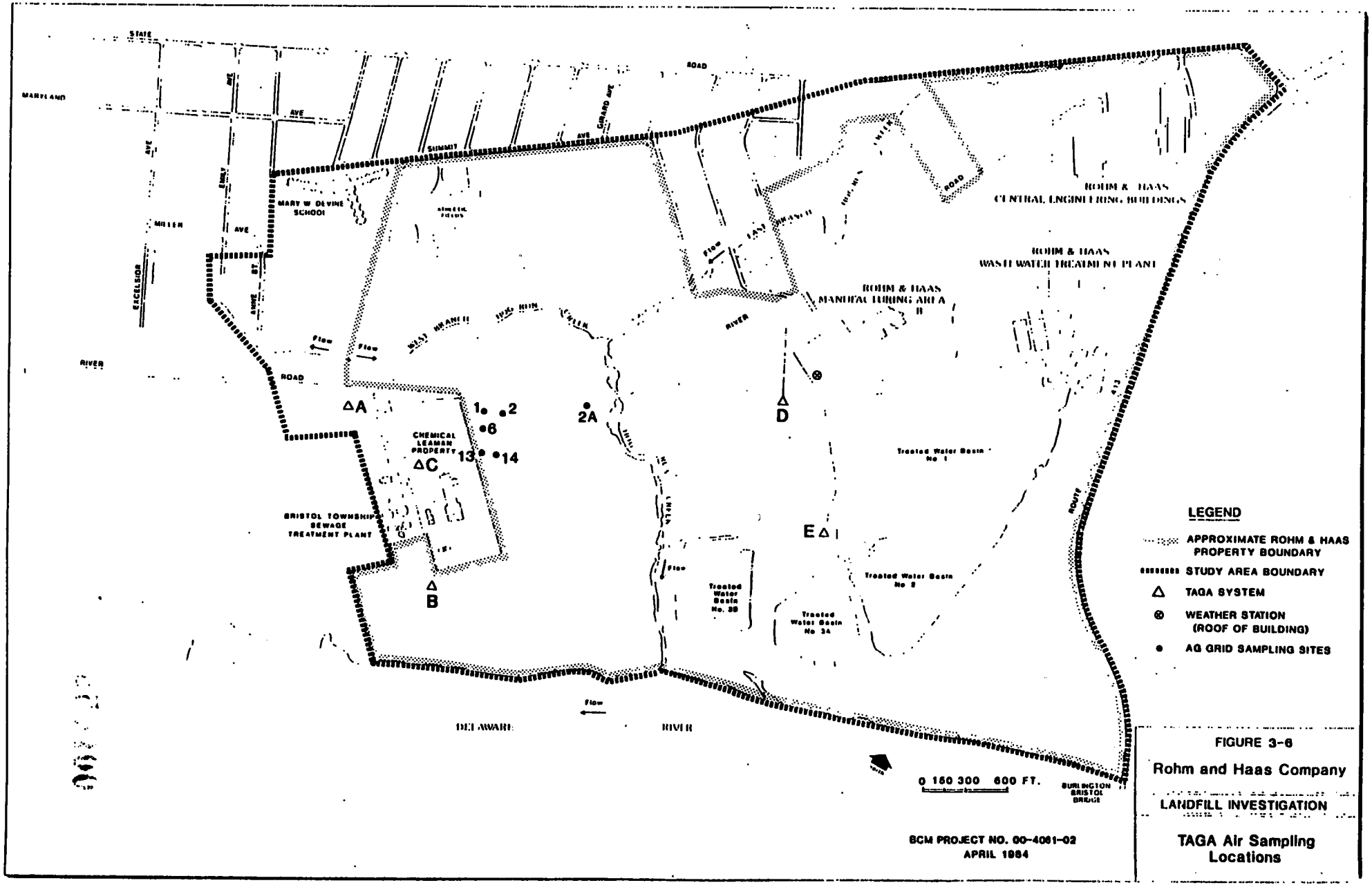

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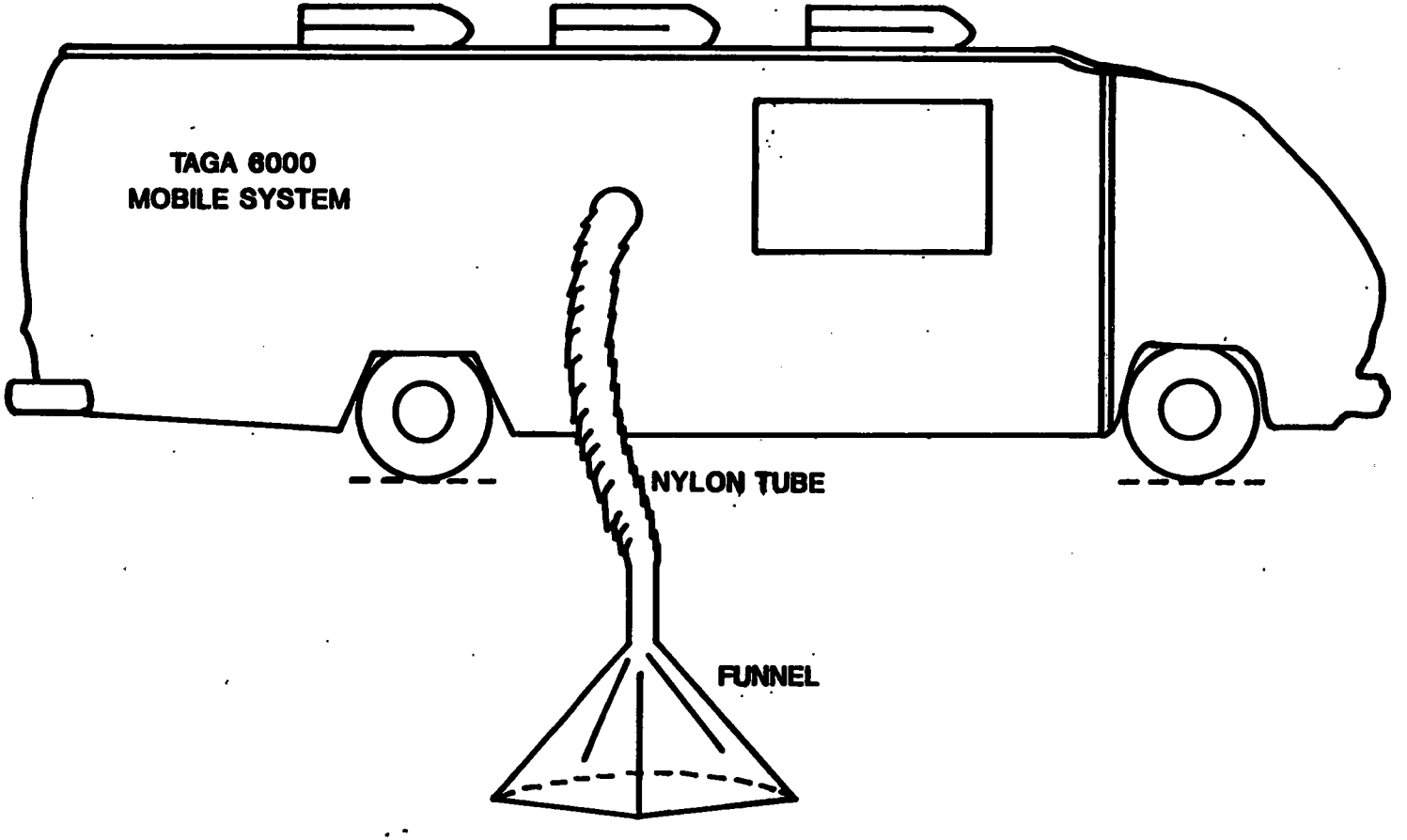
FIGURE 3-6

Rohm and Haas Company

LANDFILL INVESTIGATION

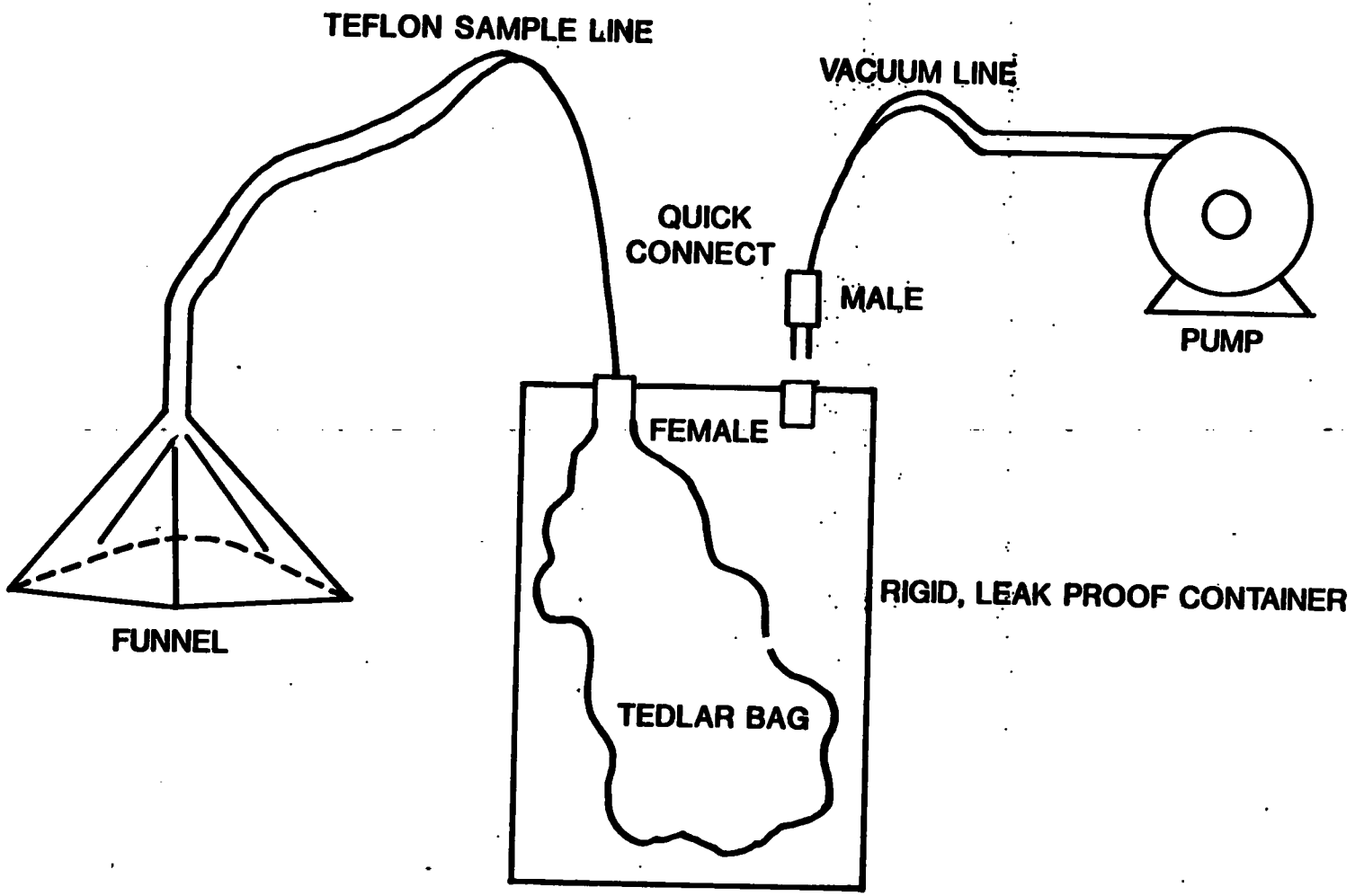
TAGA Air Sampling Locations



TAGA GRID SAMPLING

FIGURE 3-7

Rohm and Ha[illegible] Company



GRID BAG SAMPLING

FIGURE 3-8

Rohm and Haas Company

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Based on the Bristol Plant manufacturing history, a list of 11 target organic compounds was compiled (see Table 3-6). Air quality guidelines as promulgated by the Philadelphia Department of Public Health, Air Management Service (AMS) Regulation VI entitled, "Control of Emissions of Toxic Air Contaminants" are being used to determine the significance of the concentrations detected. Additional compounds would be evaluated if any were detected during the TAGA monitoring program.

For the permanent perimeter sampling, 4 of the 11 compounds were selected for initial analyses because of their environmental importance. The compounds are acrylonitrile, benzene, ethylene dichloride (EDC), and trichloroethylene (TCE). Personnel sampling pumps were utilized to sample for these compounds on each of the four programs performed to date. Activated charcoal was the selected adsorbing medium based on EPA task work on the determination of organics in air and a literature search performed by BCM personnel. Pumps were calibrated prior to their use in the field in order to calculate a known air sample volume for the sample period. Sampling duration and rates have been increased since the November program to compensate for expected low ambient organic concentrations and to increase the sensitivity of the sampling.

3.5.2 Analytical Parameters

The data from the initial FID and PID grid program was generated by the respective instruments while on site. All charcoal tube samples were returned to BCM's laboratory in Norristown for analysis. The charcoal was desorbed with carbon disulfide and injected into a gas chromatograph with a flame ionization detector.

During the TAGA visit, the analyses for all eleven target compounds were completed. This included the grid and perimeter samples taken directly by the van as well as those grid bag samples taken by BCM personnel and delivered to the van because the location was not accessible. Two sets of parent/daughter ions were used for each compound (except acrylonitrile) to add confidence to each identification. Additionally, full mass range collision-induced dissociation (CID) spectra were collected for each target compound and comparisons to library spectra for confirmation of qualitative identification were performed. A general screen of parent ions was performed on each sample to give any indication of the presence of significant quantities of non-target compounds.

The TAGA was mass calibrated daily to ensure that the instrument was properly tuned and parameters had been optimized. This was followed by an instrument calibration for each of the target compounds. A calibration curve for each compound using five points in the parts per billion (ppb) range was generated. Finally, blanks were run in order to eliminate instrument and equipment contributions to observed levels for the target compounds. The blanks of the Tedlar bags and the upwind samples gave no sign of equipment-related interference.

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TABLE 3-6

LIST OF ORGANIC TARGET COMPOUNDS FOR AIR SURVEY

Methyl acrylate
Ethyl acrylate
Butyl acrylate
Acrylonitrile
Toluene
Styrene
Xylene
Methyl ethyl ketone (MEK)
Benzene
Trichloroethylene (TCE)
Ethylene dichloride (EDC, dichloroethane)

Source: BCM Eastern, Inc.; Project No. 00-4061-03

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TABLE OF CONTENTS

		Page
4.0	INVESTIGATION FINDINGS	4-1
4.1	Groundwater Quality	4-1
4.1.1	Review of Groundwater Quality Data	4-1
4.1.2	Zones A-1, A-4, and P-2 - Groundwater Quality	4-10
4.1.3	Zone A-2 - Groundwater Quality Assessment	4-12
4.1.4	Zone A-3 - Groundwater Quality	4-12
4.1.5	Zone B - Groundwater Quality	4-15
4.1.6	Zone C - Groundwater Quality	4-15
4.1.7	Zone D - Groundwater Quality	4-17
4.1.8	Zone P-1 - Groundwater Quality	4-21
4.1.9	Zone P-2 - Groundwater Quality	4-21
4.1.10	Zone P-3 - Groundwater Quality	4-21
4.1.11	Zone P-4 - Groundwater Quality	4-24
4.1.12	Zone P-5 - Groundwater Quality	4-24
4.2	Surface Water Quality	4-26
4.2.1	Hog Run Creek	4-27
4.2.2	Delaware River	4-29
4.3	Soil Conditions	4-31
4.4	Air Quality Impacts	4-34
4.4.1	Grid Sampling Program	4-34
4.4.2	Permanent Perimeter Air Sampling	4-38
4.4.3	TAGA System Testing	4-38

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April 84 Report

4.0 INVESTIGATION FINDINGS

4.1 GROUNDWATER QUALITY

4.1.1 Review of Groundwater Quality Data

A review of groundwater quality analytical results was conducted to determine which parameters were most indicative of groundwater quality beneath, and in the vicinity of, the landfill. The results are as follows:

- For those parameters included within the EPA's Interim Primary Drinking Water Standards (Table 4-1), the measured concentrations in 48 of 50 wells analyzed for those parameters were within (better quality than) the standards. The standards were only slightly exceeded in two widely separated wells. Well CR-3A exhibited a chromium concentration of 0.055 mg/l which exceeded the chromium standard of 0.05 mg/l, and wells LF-8 and CR-3A exhibited arsenic concentrations of 0.118 mg/l and 0.09 mg/l, respectively, which exceeded the arsenic standard of 0.05 mg/l.

- Non-priority pollutant organic compounds (Category 3) were detected in only one monitoring well (CR-3A). Well CR-3A exhibited an acetone concentration of 48 mg/l and an isopropyl alcohol concentration of 30 mg/l.

- Concentrations of two inorganic compounds, ammonia and sulfate, generally together with specific conductance, COD and TOC, were elevated in many monitoring wells. The specific conductance was found to be closely related to the concentration of ammonia (i.e., the higher the specific conductance, the higher the concentration of ammonia). Sulfate concentrations were generally less elevated west of Hog Run Creek.

- The pH in the wells ranged from 4.9 to 7.6. The limited pH range and moderate pH values indicate that no strongly acidic or basic leachates are present.

- Iron and manganese concentrations are generally elevated above background levels

- Levels of the priority pollutant metals not included in the interim primary drinking water parameters - antimony, beryllium, copper, nickel, thallium, and zinc - along with cyanide, were either below the limits of detection or at very low concentrations in all wells.

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TABLE 4-1

US EPA INTERIM PRIMARY DRINKING WATER STANDARDS (1)

Parameter	Maximum Level
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Fluoride	1.2 - 2.4
Lead	0.05
Mercury	0.002
Nitrate (as N)	10
Selenium	0.01
Silver	0.05
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
2,4-D	0.005
2,4,5-TP Silvex	0.01
Radium	5 pCi/l
Gross Alpha	15 pCi/l
Gross Beta	4 millirem/yr
Turbidity	1 /TU
Coliform Bacteria	1 /100 ml

(1) All concentrations are in mg/l (ppm), except as noted

- Twenty-seven of the 113 organic priority pollutants were detected in one or more wells (see Table 4-2 for a summary of organic compound findings).

- In no one well did the total quantity of detected priority pollutant organics exceed 1 milligram per liter (mg/l - parts per million).

- Thirteen of the 32 priority pollutant volatile organic compounds were detected. One or more compounds were present above detection limits in 29 of the 57 wells.

- Eight of the 46 base/neutral compounds were detected. Discounting bis(2-ethylhexyl) phthalate, which was detected at low concentrations in several samples, including background wells, and is frequently inadvertantly introduced into the analysis via well construction materials or sampling equipment, one or more compounds in this broad subcategory were detected in 8 of the 57 wells.

- Six of the 11 acid extractable compounds were detected. One or more phenolic compounds in the acid extractable group of priority pollutants were detected in 4 of the 57 wells.

- No priority or non-priority pollutant pesticides or herbicides were detected in any well.

- No polychlorinated biphenyls (PCB's) were detected in any well.

- No dioxin (2,3,7,8-TCDD) was detected.

All analytical results are tabulated in Appendix J.

This review indicates that a limited set of parameters can be used to facilitate the assessment of groundwater quality at the site. These parameters and their ranges of concentrations in three upgradient or background monitoring wells are presented in Table 4-3. The rationale for the selection of these evaluation parameters is presented below:

Specific Conductance - Specific conductance is a measure of the total concentration of dissolved ionic substances in a sample of groundwater. It is a commonly used groundwater quality indicator parameter. It is an excellent indicator of the presence of elevated concentrations of inorganic contaminants.

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TABLE 4-2

SUMMARY OF ORGANIC PRIORITY POLLUTANTS AND CATEGORY 3
ORGANIC COMPOUNDS DETECTED IN MONITORING WELLS (1) (2)

Well Number	Compound(s) Detected	Concentration
CR-1A	None detected	
CR-1B	bis(2-ethylhexyl) Phthalate	29.0 ug/l
CR-2	Trichloroethylene	12.0 ug/l
CR-3A	Pyrene	10.0 ug/l
	Acetone	48.0 mg/l
	Isopropyl alcohol	30.0 mg/l
	N-Nitroso-di-n-propylamine	200.0 mg/l
	2,4-Dimethylphenol	250.0 ug/l
CR-3B	None detected	
CR-3C	None detected	
CR-4A	1,1-Dichloroethylene	13.0 ug/l
	1,1,1-Trichloroethane	60.0, 30.5 ug/l
	Trichloroethylene	470.0, 180.0 ug/l
	Chloroform	0.3 ug/l
CR-4B	1,1,1-Trichloroethane	12.0, 3.3 ug/l
	Trichloroethylene	57.0, 5.9 ug/l
CR-4C (3)	Chloroform	10.3 ug/l
	1,1,2,2-Tetrachloroethane	1.4 ug/l
CR-5	None detected	
CR-6	Trichloroethylene	10.0, 14.7 ug/l
	1,1,1-Trichloroethane	2.2 ug/l
	1,1-Dichloroethane	2.2 ug/l
	Trans-1,2-Dichloroethylene	0.4 ug/l
	Chloroform	0.3 ug/l
CR-7	Chloroform	37.8 ug/l
	1,1,1-Trichloroethane	0.1 ug/l
	Trichloroethylene	2.8 ug/l
CR-8	None detected	
CR-9	Benzene	99.0 ug/l
	Ethylbenzene	88.0 ug/l
	Toluene	630.0 ug/l

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Table 4-2 (Continued)

Well Number	Compound(s) Detected	Concentration
CR-10	Toluene	12.0 ug/l
CR-11	None detected	
CR-12A	1,2-Dichlorobenzene	10.0 ug/l
CR-12B	2-Chlorophenol	60.0 ug/l
	4-Nitrophenol	240.0 ug/l
	p-Chloro-m-cresol	70.0 ug/l
	Pentachlorophenol	56.0 ug/l
	Phenol	22.0 ug/l
CR-13A	None detected	
CR-13B	None detected	
CR-14	None detected	
CR-15	None detected	
CR-16	Chlorobenzene	16.7 ug/l
CR-17	1,1-Dichloroethane	4.4 ug/l
	1,1-Dichloroethylene	2.0 ug/l
	trans-1,2-Dichloroethylene	51.2 ug/l
CR-18	1,1,1-Trichloroethane	25.4, 11.0 ug/l
	Chloroform	2.4 ug/l
	Trichloroethylene	98.7 ug/l
	Tetrachloroethylene	25.7 ug/l
CR-19A	1,1,1-Trichloroethane	130.0, 75.8 ug/l
	1,1-Dichloroethane	10.7 ug/l
	Chloroform	0.8 ug/l
	Trichloroethylene	281.0 ug/l
	Tetrachloroethylene	3.4 ug/l
CR-19B	Chloroform	2.6, 3.0 ug/l
	1,1,1-Trichloroethane	2.1 ug/l
	Trichloroethylene	10.8 ug/l
	Tetrachloroethylene	2.3 ug/l
CR-20A (3)	1,1-Dichloroethane	2.1 ug/l
	1,1,1-Trichloroethane	19.4 ug/l
	Trichloroethylene	315.0 ug/l
	Tetrachloroethylene	0.7 ug/l
	1,1-Dichloroethylene	6.6 ug/l
	1,1-Dichloroethane	5.7 ug/l

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Table 4-2 (Continued)

Well Number	Compound(s) Detected	Concentration
CR-20B (3)	1,1,1-Trichloroethane	2.2 ug/l
	trans-1,2-Dichloroethylene	0.7 ug/l
	Trichloroethylene	8.3 ug/l
CR-21A (3)	1,1-Dichloroethane	1.0 ug/l
	1,1,1-Trichloroethane	28.0 ug/l
	1,1-Dichloroethylene	7.4 ug/l
	Chloroform	1.9 ug/l
—	Trichloroethylene	240.0 ug/l
	Tetrachloroethylene	1.6 ug/l
CR-21B (3)	Chloroform	2.7 ug/l
	1,1,1-Trichloroethane	1.0 ug/l
	Trichloroethylene	8.2 ug/l
CR-21C (3)	1,1-Dichloroethane	2.3 ug/l
	1,1,1-Trichloroethane	27.0 ug/l
	1,1-Dichloroethylene	5.3 ug/l
	Chloroform	0.5 ug/l
	Trichloroethylene	202.0 ug/l
	Tetrachloroethylene	1.8 ug/l
CR-22 (3)	1,1,1-Trichloroethane	5.1 ug/l
	Chloroform	2.1 ug/l
	Trichloroethylene	69.2 ug/l
LF-1	Pentachlorophenol	190.0 ug/l
	Benzene	23.0 ug/l
LF-2 —	Benzene	200.0 ug/l
	Napthalene	12.0 ug/l
LF-3A	Isophorone	14.0 ug/l
LF-3B	Pentachlorophenol	33.0 ug/l
	Isophorone	16.0 ug/l
	Chlorobenzene	11.0 ug/l
	Ethylbenzene	16.0 ug/l
LF-4 —	bis(2-chloroethyl) Ether	770.0 ug/l
	Benzene	60.0 ug/l
	Chlorobenzene	48.0 ug/l
	Ethylbenzene	20.0 ug/l
LF-5	None detected	
LF-6A	None detected	

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Table 4-2 (Continued)

Well Number	Compound(s) Detected	Concentration
LF-7	None detected	
LF-8	Benzene	49.0 ug/l
LF-9	Chloroform	40.0 ug/l
	1,2-Dichloropropane	14.0 ug/l
LF-10	None detected	
LF-11	None detected	
LF-12	None detected	
LF-13A	Chloroform	0.3, 1.7 ug/l
	1,1,1-Trichloroethane	49.0 ug/l
	1,1-Dichloroethylene	4.3 ug/l
	1,1-Dichloroethane	0.5 ug/l
	Trichloroethylene	187.0 ug/l
	Tetrachloroethylene	2.9 ug/l
LF-13B	trans-1,2-Dichloroethylene	12.0, 5.5 ug/l
	1,1,1-Trichloroethane	45.0, 24.0 ug/l
	Trichloroethylene	230.0, 130.0 ug/l
	1,1-Dichloroethylene	1.1 ug/l
	1,1-Dichloroethane	0.5 ug/l
	Tetrachloroethylene	1.8 ug/l
LF-14	None detected	
LF-15A	cis-1,3-Dichloropropylene	8.2 ug/l
	Tetrachloroethylene	16.5 ug/l
LF-15B	None detected	
LF-16	None detected	
LF-17	Chloroform	1.0 ug/l

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Table 4-2 (Continued)

Well Number	Compound(s) Detected	Concentration
LF-18	None detected	
LF-19	None detected	
LF-20	Chloroform	2.3 ug/l

1. This summary does not include the following parameters:

   - oil and grease, and surfactants (MBAS) because these classes of compounds are commonly found in residential and industrial areas and are specific to Rohm and Haas operations

   - bis(2-ethylhexyl) phthalate at concentrations equal to or less than 25 parts per billion because of potential testing equipment interferences

   - methylene chloride at concentrations equal to or less than 10 parts per billion because of potential cross contamination

2. A complete printout appears in Appendix J

3. These wells analyzed only for purgeable halocarbons (Method 601) and purgeable aromatics (Method 602) as part of the investigation of TCE contamination (see paragraph 4.1.7).

Source: BCM Eastern, Inc.; Project No. 00-4061-02

000370

TABLE 4-3

GROUNDWATER QUALITY OF GENERAL EVALUATION PARAMETERS
CONCENTRATIONS IN BACKGROUND WELLS

Parameter	Units	Well Number			Average Concentration
		CR-1B	LF-14	LF-15B	
TOC	mg/l	49.0	9.0	15.0	24
COD	mg/l	36.0	12.0	29.0	26
Specific conductance	umhos	308.0	177.0	171.0	219
Ammonia	mg/l	<0.05	<0.05	<0.05	<0.05
Sulfate	mg/l	39.9	30.5	28.1	33
Iron	mg/l	0.37	<.04	<.04	.12
Manganese	mg/l	1.83	0.07	0.63	.84

Source: BCM Eastern Inc.; Project No. 00-4061-02

000071

Total Organic Carbon (TOC) - TOC is a measure of the total concentration of organic compounds, as carbon, in groundwater. TOC is a commonly used indicator of the presence of organic contaminants.

Chemical Oxygen Demand (COD) - COD is an indicator of the total inorganic and organic materials present which can be readily oxidized.

Ammonia - Ammonia is the compound most commonly detected at elevated concentrations in the groundwater monitoring wells.

Sulfate - Sulfate is the second most common compound found in elevated concentrations, although infrequently above the secondary drinking water standard. Sulfate is a frequently used parameter for assessing groundwater quality.

Iron and Manganese - Iron and manganese are naturally present in the alluvial sediments at low levels of solubility. The introduction of organic compounds and resultant chemical reactions tends to solubilize the iron and manganese in the sediments and they are therefore useful indicators of groundwater contamination.

Discussions of groundwater quality in each of the landfill zones (see Figure 2-3) and adjacent areas are presented in subsections 4.1.2 to 4.1.9 and are largely confined to these parameters. Other parameters, particularly the organic priority pollutant compounds, enter into discussions where relevant.

4.1.2 Zones A-1, A-4, and P-2 - Groundwater Quality

Zones A-1, A-4, and P-2 are discussed together because they are adjacent to each other and maintain similar physical characteristics with respect to topography and groundwater flow. Six groundwater monitoring wells - LF-1, LF-8, LF-9, LF-10, LF-11, LF-12 are either within or directly downgradient from landfill Zones A-1 and A-4. Monitoring wells LF-2, and LF-7, although in different zones, are in nearby downgradient positions. LF-1, LF-2 and LF-10 penetrate landfilled wastes. Analytical results are presented in Table 4-4. The principal findings are:

- The concentrations of evaluation parameters show typical variability. With the exception of well LF-12, which is a particularly shallow well (13 feet), the concentrations were six to fifteen times the background concentration. Ammonia in five of the eight wells equaled or exceeded 129 mg/l. Sulfate concentrations did not exceed 101 mg/l and were less than 3 1/2 times the average background concentration. TOC and COD concentrations were typically elevated, with maximum concentrations of 812 mg/l and 419 mg/l, respectively.

TABLE 4-4

ZONES A-1, A-4, AND P-2 EVALUATION PARAMETER CONCENTRATIONS[1]

Parameter	Well Number							
	LF-1	LF-2	LF-7	LF-8	LF-9	LF-10	LF-11	LF-12
TOC	278	812	364	23	187	174	110	26
COD	365	193	263	123	419	344	210	40
Specific Conductance (micromhos)	2,850	3,320	1,190	2,280	1,760	1,740	2,200	340
Ammonia	216	134	2.34	142	0.78	135	129	<0.05
Sulfate	---	---	75.2	---	88.5	101	23.1	47.8
Iron	16.3	53.2	39.1	9.06	25.9	21.4	1.65	4.95
Manganese	4.63	0.43	4.63	0.14	8.63	1.37	6.25	0.80

1. All concentrations are in mg/l (ppm), except as noted.

Source: BCM Eastern, Inc.; Project No. 00-4061-02

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- Volatile organic compounds were found in well LF-2, LF-8 and LF-9 (Table 4-2). Pentachlorophenol was detected at a concentration of 190 ug/l in LF-1.

- The scattered, relatively low level organic compound concentration shows no systematic distribution.

- The 0.118 mg/l concentration of arsenic in well LF-8 is above the US EPA Interim Primary Drinking Water Standard (0.05 mg/l).

4.1.3 Zone A-2 - Groundwater Quality Assessment

Wells LF-2, LF-3A and LF-3B, although penetrating landfill waste prior to entering undisturbed alluvium, are in downgradient positions in Zone A-2. Analytical results are presented in Table 4-5. The principal findings are:

- The concentrations of the evaluation parameters show considerable range and are generally above background concentrations. Concentrations are in a range similar to those in Zone A-1.

- The LF-3A/LF-3B well couplet does not show a high density plume. The TOC, specific conductance, and ammonia concentrations are higher in the shallower well (LF-3B).

- The organic compounds and associated concentrations are reported in Table 4-2. With the exception of the benzene concentrations in LF-2, the concentrations are only slightly above the detection limits for these compounds and are very low.

4.1.4 Zone A-3 - Groundwater Quality

Zone A-3 has four wells, LF-4, LF-5, LF-6A, and LF-6B in downgradient positions along the Delaware River. LF-3A and LF-3B, previously reported in the discussion of Zone A-2, border Hog Run Creek. LF-6B was not sampled due to the limited thickness of the water-bearing zone. Analytical results are presented in Table 4-6. The principal findings are:

- Evaluation parameter concentrations are generally lower in Zone A-3 than in Zone A-1 and A-2. COD, specific conductance, and ammonia concentrations, although above background, are well below those reported for zones A-1 and A-2.

TABLE 4-5

ZONE A-2 EVALUATION PARAMETER CONCENTRATIONS[1]

Parameter	LF-2	LF-3A	LF-3B
TOC	812	43	363
COD	193	60	10
Specific Conductance (micromhos)	3,320	994	2,010
Ammonia	134	42.5	136
Sulfate	1.11	13.86	4.86
Iron	53.2	34.6	5.21
Manganese	0.43	4.5	1.29

1. All concentrations are in mg/l (ppm), except as noted.

Source: BCM Eastern, Inc.; Project No. 00-4061-02

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TABLE 4-6

ZONE A-3 EVALUATION PARAMETER CONCENTRATIONS[1]

Parameter	Well Number					
	LF-4	LF-5	LF-6A	LF-6B	LF-3A	LF-3B
TOC	69	282	13	NS	43	363
COD	157	24	60	NS	60	10
Specific conductance (micromhos)	1610	640	420	NS	994	2,010
Ammonia	124	19.8	1.98	NS	42.5	136
Sulfate	12.8	35.8	2.68	NS	13.9	4.87
Iron	43.4	46.3	14.1	NS	34.6	5.21
Manganese	0.9	9.38	1.04	NS	4.5	1.29

1. All concentrations are in mg/l (ppm), except as noted.
NS = Not sampled

Source: BCM Eastern, Inc.; Project No. 00-4061-02

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- Seven hundred seventy (770) micrograms per liter of bis(2-chloroethyl) ether were detected (see Table 4-2) in LF-4. Low levels of three volatile organic compounds were also detected in well LF-4. Priority pollutant compound concentrations were not detected in wells LF-5 and LF-6A.

4.1.5 Zone B - Groundwater Quality

Wells CR-8 and CR-9 are positioned bordering Hog Run Creek on the west side of Zone B and monitor groundwater emanating from Zone B. Analytical results are presented in Table 4-7. The principal findings are:

- Evaluation parameter concentrations are only slightly elevated above background. For example, specific conductance in wells CR-8 and CR-9 is 304 and 508 micromhos, respectively, and ammonia is <0.05 and 10.6 mg/l, respectively.

- Benzene, toluene and ethylbenzene are present in well CR-9 (see Table 4-2). No priority pollutant organic compounds (with the exception of bis(2-ethylhexyl phthalate) were detected in well CR-8.

4.1.6 Zone C - Groundwater Quality

Four wells - CR-10, CR-11, CR-12A and CR-12B - are in downgradient positions in Zone C. CR-10 and CR-11 are positioned adjacent to Hog Run Creek at the west edge of Zone C and the CR-12A/CR-12B well couplet is positioned at the southeast corner of Zone C adjacent to treated water basin No. 3. Analytical results are presented in Table 4-7. The principal findings are:

- Wells CR-10 and CR-11 have low concentrations of ammonia and relatively high concentrations of iron and manganese, 96.4 and 43.1 milligrams per liter, respectively. Specific conductance concentrations are 1,505 and 890 micromhos, respectively.

- The CR-12A/CR-12B well couplet demonstrates a trend which is also evident in the area D couplets. Well CR-12B draws water from the upper interval of the saturated alluvium (8-20 feet below the surface), while well CR-12A draws from a lower depth (33 to 40 feet below the surface). Evaluation parameter concentrations are greater in well CR-12A. Most notably, specific conductance and ammonia are 2,200 micromhos and 112 mg/l in CR-12A versus 1,180 micromhos and 14.0 mg/l in well CR-12B. This is an indication that in at least portions of Zone C there is a high density plume with higher concentrations at lower depths within the saturated alluvium above bedrock.

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TABLE 4-7

ZONES B AND C EVALUATION PARAMETER CONCENTRATIONS[1]

Parameter	Well Number					
	Zone B		Zone C			
	CR-8	CR-9	CR-10	CR-11	CR-12A	CR-12B
TOC	54	100	69	15	365	93
COD	162	45	166	53	210	173
Specific Conductance (micromhos)	304	508	1,500	890	2,200	1,180
Ammonia	<0.05	10.6	6.0	4.5	112	14.0
Sulfate	36.0	36.0	61.9	20.4	140	122
Iron	<0.04	86.6	96.4	43.1	4.69	0.04
Manganese	0.06	4.88	5.5	2.87	13.6	0.18

1. All concentrations are in mg/l (ppm), except as noted.

Source: BCM Eastern, Inc.; Project No. 00-4061-02

- TOC and COD concentrations are several times higher than background in CR-10, CR-12A and CR-12B.

- The surfactant (MBAS) concentration is 547 mg/l in CR-11. The toluene concentration in well CR-10 is slightly above the detection limit (see Table 4-2).

- Concentrations of several phenolic compounds - 2-chlorophenol, 4-nitrophenol, p-chloro-m-creosol, pentachlorophenol, and phenol - were detected in well CR-12B (see Table 4-2).

4.1.7 Zone D - Groundwater Quality

Seven monitoring wells - CR-3A, CR-3B, CR-4A, CR-4B, CR-5, CR-6, and CR-7 are in position directly downgradient from the zone D.

Fourteen monitoring wells - CR-1A, CR-3C, CR-4C, CR-16, CR-17, CR-18, CR-19A, CR-19B, CR-20A, CR-20B, CR-21A, CR-21B, CR-21C, CR-22 - were added in January and February 1984. Analytical results are presented in Table 4-8. The principal findings are:

- The well couplets - CR-3A/CR-3B, CR-4A/CR-4B, and CR-20A/CR-20B - show the evaluation parameter concentrations in the deeper couplet members (CR-3A, CR-4A, and CR-20A) considerably greater, often by an order of magnitude, than the concentrations in the shallower members. For example, the concentrations of COD in wells CR-3A and CR-3B are 3,320 and 144 mg/l and 685 and 26 mg/l in CR-4A and CR-4B. This indicates the presence of a density plume. The low ammonia and specific conductance levels in the CR-21 series indicates that the plume is limited to the area southeast of River Road. Wells CR-6 and CR-7, which are screened through the entire saturated interval above weathered bedrock have low specific conductance and ammonia concentrations indicating that the plume is limited to an area east of their location. The background level concentrations in CR-1A and CR-1B indicate the east flank of the plume is west of this area.

- Specific conductance and ammonia concentrations in wells CR-18, CR-19A, and CR-19B show no indication of a high density plume north of the Hog Run Creek.

- CR-3C, which is a monitoring well screened in the interval 10 to 20 feet below the top of saprolitic bedrock surface and located adjacent to wells CR-3A and CR-3B, indicates that bedrock groundwater quality has not been affected.

- Concentrations of trichloroethylene (TCE) were detected in wells CR-18, CR-19A, CR-19B, LF-13A and LF-13B north of the East Branch of Hog Run Creek and in wells CR-4A, CR-4B, CR-6, CR-7, CR-20A, CR-20B, CR-21A, CR-21B, CR-21C and CR-22.

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TABLE 4-8

ZONE D EVALUATION PARAMETER CONCENTRATIONS[1]

Parameter	Well Number									
	CR-1A	CR-3A	CR-3B	CR-3C	CR-4A	CR-4B	CR-4C	CR-5	CR-6	CR-7
TOC	25	2,410	760	29	416	44	N/A	32	57	169
COD	25	3,320	144	33	685	26	53	128	287	24
Specific Conductance (micromhos)	181	13,500	2,800	150	2,100	221	2,390	768	1,080	257
Ammonia	<0.05	225	350	0.2	200	<0.05	2.75	40	1.07	<0.05
Sulfate	45.7	948	440	5.58	363	41.9	284.0	182	183	35.0
Iron	0.09	5.83	1.44	0.38	5.16	0.06	N/A	<0.04	7.57	<0.04
Manganese	0.10	N/A	1.58	0.06	1.72	0.51	N/A	3.32	14.4	0.28

TABLE 4-8 (Continued)

	Well Number										
	CR-16	CR-17	CR-18	CR-19A	CR-19B	CR-20A	CR-20B	CR-21A	CR-21B	CR-21C	CR-22
TOC	20	22	31	4	10	N/A	N/A	N/A	N/A	N/A	N/A
COD	73	49	41	28	10	3,660	93	335	70	3,820	230
Specific Conductance	1,160	1,340	160	95	182	2,550	175	230	385	107	935
Ammonia	30.0	125	<0.05	<0.05	<0.05	262.0	2.15	<0.05	<0.05	<0.05	<0.05
Sulfate	2.75	197.0	41.3	0.98	43.0	466.1	27.1	28.0	55.4	2.11	51.3
Iron	1.15	4.31	0.06	0.06	0.06	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	0.81	5.65	0.52	0.20	<0.02	N/A	N/A	N/A	N/A	N/A	N/A

1. All concentrations are in mg/l (ppm), except as noted.
N/A = Not to be analyzed
Source: BCM Eastern Inc.; Project No. 00-4061-02

000081

- Well CR-3A contains a chromium concentration of 0.055 mg/l, each slightly above the US EPA Interim Primary Drinking Water Standard (0.05 mg/l), and an arsenic concentration of 0.09 mg/l.

- Acetone and isopropyl alcohol were detected in well CR-3A (48 mg/l and 30 mg/l, respectively).

- N-Nitroso-di-n-propylamine was detected in wells CR-3A.

Trichloroethylene has been detected at concentrations less than 600 ug/l (ppb) in several wells in the vicinity of manufacturing area B. Although less often used today, TCE is a commonly used solvent and degreaser with applications including septic tank degreasing, equipment cleaning and metal degreasing. The analyses of the November 1983 samples revealed the presence of TCE and lesser concentrations of related purgeable halocarbon compounds in monitoring wells LF-13B (north of Hog Run - 230 ug/l), CR-4A (470 ug/l), and CR-4B (57 ug/l) 400 feet north of the manufacturing area B building. With the installation of 11 additional monitoring wells in this area a complete set of samples were obtained on February 24, 1984. Table 4-9 presents the concentrations of TCE and other purgeable halocarbon and purgeable aromatic compounds analyzed. The TCE concentrations in the five monitoring wells north of Hog Run range between 10.8 and 281 ug/l. South of Hog Run the TCE concentrations in 10 monitoring wells range between 2.8 and 315 ug/l Related findings include:

- Concentrations of only 2 other compounds: 1,1,1-Trichloroethane (TCA) and tetrachloroethylene (PCE) - were detected in the 15 wells. In six of the eight wells with TCE concentrations exceeding 95 ug/l, the TCE:TCA ratios were 4-5:1.

- PCE was detected above 10 ug/l in only one sample (CR-18).

- At 4 of the 5 well couplets/triplets sampled, the TCE concentrations in the shallower well ranged between 5.9 and 10.8 ug/l, less than 5% of the concentrations in the respective deeper well. Only in LF-13B/13A couplet did the shallow well concentration (130 ug/l) approach the deeper well concentration (187 ug/l).

- Ammonia concentrations in each of the wells north of the East Branch of Hog Run Creek were less than the detection limit of 0.05 mg/l (ppm). Ammonia concentrations in each of the CR-20 series wells is also less than the detection limit. As described the elevated concentrations of ammonia are the principal indicator of groundwater contamination associated with the landfill.

- The low-level methylene chloride concentrations are considered to be a result of field and laboratory contamination.

TABLE 4-9

PURGEABLE ORGANIC CONCENTRATIONS
ZONES D AND P-4

Parameter	Well No:	North of Creek					South of Creek									
	BCM Sample No:	CR-1B 2807	CR-19A 2808	CR-19B 2809	LF-13A 2816	LF-13B 2817	CR-4A 2803	CR-4B 2804	CR-6 2805	CR-7 2806	CR-20A 2810	CR-20B 2811	CR-21A 2812	CR-21B 2813	CR-21C 2814	CR-22 2815
Chloromethane		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromomethane		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Vinyl Chloride		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroethane		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methylene Chloride		5.3	4.4	3.5	2.1	2.2	4.5	1.1	4.4	3.9	1.9	1.4	0.9	2.2	2.7	0.2
Trichlorofluoromethane		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-Dichloroethene		<0.1	10.7	<0.1	4.3	1.1	1.6	<0.1	<0.1	<0.1	6.6	<0.1	7.4	<0.1	5.3	<0.1
1,1-Dichloroethane		<0.1	<0.1	<0.1	0.5	0.5	<0.1	<0.1	2.2	<0.1	5.7	<0.1	1.0	<0.1	2.3	<0.1
Trans-1,2-Dichloroethene		<0.1	<0.1	<0.1	<0.1	5.5	<0.1	<0.1	0.4	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.1
Chloroform		2.4	0.8	3.0	0.3	<0.1	0.3	<0.1	0.3	37.8	<0.1	<0.1	1.9	2.7	0.5	2.1
1,2-Dichloroethane		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,1-Trichloroethane		11.0	75.8	2.1	49.0	24.0	30.5	3.3	2.2	0.1	19.4	2.2	28.0	1.0	40.7	5.1
Carbon Tetrachloride		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromodichloromethane		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichloropropane		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trans-1,3-Dichloropropene		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Trichloroethylene		98.7	281	10.8	187	130	180	5.9	14.7	2.8	315	8.3	240	8.2	202	69.2
Dibromochloromethane and/or 1,1,2-Trichloroethane and/or Cis-1,3-Dichloropropene		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-Tetrachloroethane and/or Tetrachloroethene		25.7	3.4	2.3	2.9	1.8	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	1.6	<0.1	1.8	<0.1
Benzene		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethyl Benzene		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Sampling date: 02/24/84
All results reported in ug/l (ppb)
Source: BCM Eastern, Inc.; Project No. 00-4061-02

000083

- The hydraulic flow analysis described in Section 2.3 determined that groundwater from the area south of the East Branch at Hog Run Creek does not flow to the area north of the Creek. Artesian conditions are present which may allow groundwater north of the creek to flow beneath the creek towards Manufacturing Area B.

The findings listed above summarize the available information on the TCE-bearing groundwater in the vicinity of Manufacturing Area B. The TCE source(s) has not been identified. However, the groundwater does not flow from south to north under Hog Run Creek. This, and the lack of ammonia and other landfill associated contaminants in the monitoring wells north of the creek, demonstrate that the TCE north of the creek is not associated with the landfill or other portions of the Rohm and Haas property. The source(s) north of the creek are probably related to the use of TCE in septic tank cleaners, degreasing activities or other industrial sources.

The low concentrations of TCE in all of the shallow wells south of Hog Run Creek, the similarity in concentrations and TCE:TCA ratios in the deeper wells, and the artesian conditions noted in this area indicate that the TCE found south of the creek is likely to have originated north of the creek (see Figure 4-1).

4.1.8 Zone P-1 - Groundwater Quality

Five groundwater monitoring wells - LF-16, LF-17, LF-18, LF-19, LF-20 - and 2 shallow 2-inch piezometers - P3 and P4 - were added to determine groundwater flow direction near the headwater of the west branch of Hog Run Creek. Analytical results are presented in Table 4-10. The principal findings are:

- Ammonia concentrations are less than the detection limit in each of the wells except LF-19. The 0.27 mg/l ammonia concentration in LF-19 is only slightly above the detection limit. Specific conductance and other indicator parameter concentrations are also low.

4.1.9 Zone P-2 - Groundwater Quality

See section 4.1.2 for discussion.

4.1.10 Zone P-3 - Groundwater Quality

Monitoring wells LF-13B, LF-14, and LF-15B were sampled and analyzed as part of the overall groundwater quality assessment. Wells LF-13A and LF-15A were added later. Analytical results are presented in Table 4-11. The principal findings are:

TABLE 4-10

ZONE P-1 EVALUATION PARAMETER CONCENTRATIONS (1)

Parameter	Well Number				
	LF-16	LF-17	LF-18	LF-19	LF-20
TOC	23	22	24	8	31
COD	23	32	24	8	175
Specific Conductance (micromhos)	202	371	263	203	179
Ammonia	<0.05	<0.05	<0.05	0.27	<0.05
Sulfate	41.7	47.0	46.5	37.7	32.6
Iron	<0.04	15.1	<0.04	0.73	0.28
Manganese	0.051	0.641	0.188	0.944	0.422

1. All concentrations are in mg/l (ppm), except as noted.

Source: BCM Eastern, Inc.; Project No.00-4061-02

TABLE 4-11

ZONE P-3 EVALUATION PARAMETER CONCENTRATIONS(1)

Parameter	Well Number				
	LF-13A	LF-13B	LF-14	LF-15A	LF-15B
TOC	40	29	9.0	25	15
COD	40	154	12.0	40	29
Specific conductance, (micromhos)	99	228	177	204	171
Ammonia	<0.05	<0.05	<0.05	<0.05	<0.05
Sulfate	1.94	33.0	30.5	46.2	28.1
Iron	0.91	<0.04	<0.04	3.72	<0.04
Manganese	0.41	0.62	0.07	0.53	0.63

1. All concentrations are in mg/l (ppm), except as noted.

Source: BCM Eastern, Inc.; Project No. 00-4061-02

000086

- The concentrations of the evaluation parameters are notably low in all five wells. Wells LF-14 and LF-15B were used as background wells for the analytical data comparisons. Concentrations of specific conductance of these wells ranged between 99 and 228 micromhos. Ammonia concentrations are <0.05 in each well. Since none of the three original wells penetrate the full thickness of the saturated alluvium above bedrock and because of the detection of a high density plume in the CR-3A/CR-3B/CR-4A/CR-4B series wells, two wells - LF-13A and LF-15A - were added. The low specific conductance and ammonia values in wells LF-13A (99 umhos and <0.05 mg/l, respectively) and LF-15A (204 umhos and <0.05 mg/l, respectively) affirms that the area north of Hog Run Creek is outside of the influence of groundwater emanating from the landfill. This further confirms the water level and flow direction information presented in Section 2.3.2.2.

- Three volatile organic compounds - trans-1,2-dichloroethylene (12 ug/l), 1,1,1-trichloroethane (45 ug/l), and trichloroethylene (230 ug/l) - were detected in well LF-13B (see Table 4-2). 1,1,1-trichloroethane (49 ug/l) and TCE (187 ug/l) were detected in well LF-13A. No concentrations in excess of 10 ug/l were detected in the other wells.

4.1.11 Zone P-4 - Groundwater Quality

See Section 4.1.7 for discussion.

4.1.12 Zone P-5 - Groundwater Quality

One well (CR-13A) was added to the three wells installed in 1980 (CR-13B, CR-14, and CR-15) in this area southeast of treated water basin No. 2. Analytical results are presented in Table 4-12. The principal findings are:

- Specific conductance concentrations were above background in CR-13A (810 micromhos), CR-13B (440 micromhos), and CR-15 (364 micromhos).

- Three wells, CR-13A, CR-13B and CR-14, show moderate ammonia concentrations (2.33 to 8.5 mg/l).

- TOC concentrations are above background in CR-14 and CR-15

- No priority pollutant organic compounds were detected in the four wells.

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TABLE 4-12

ZONE P-5 EVALUATION PARAMETER CONCENTRATIONS[1]

Parameter	CR-13A	CR-13B	CR-14	CR-15
TOC	12	13	185	169
COD	25	56	22	52
Specific Conductance (micromhos)	810	440	280	364
Ammonia	8.5	2.33	6.9	0.07
Sulfate	39.3	14.4	24.2	67.1
Iron	0.05	17.7	7.61	11.6
Manganese	5.0	3.2	1.92	3.07

1. All concentrations are in mg/l (ppm), except as noted.
Source: BCM Eastern, Inc.; Project No. 00-4061-02

000088

BCM

4.2 SURFACE WATER QUALITY

A review of the analytical data was completed to determine which parameters were most indicative of surface water quality in the vicinity of the landfill. The results are as follows:

- For those parameters included in the USEPA's Interim Primary Drinking Water Standard list (Table 4-1), the measured concentrations at each surface water and seep sampling station are within (better quality than) the established standards. The only non-priority pollutant organic compounds (category 3), detected in the surface water and seep samples were MBAS, oil and grease, and formaldehyde.

- Ammonia concentrations at HRW-3 (2.75 mg/l), HRW-5 (3.8 mg/l), HRW-6 (3.6 mg/l), and HRW-7 (7.0 mg/l), and seeps HRSP-1 (3.4 mg/l), HRSP-2 (68.5 mg/l), and HRSP-3 (144 mg/l) were higher than both the upstream Hog Run Creek stations (HRW-1 and HRW-2) and the Delaware River stations.

- Specific conductance levels are elevated in seeps HRSP-2 (1,130 micromhos) and HRSP-3 (2,340 micromhos). The level in HRW-5 (1,890 micromhos) was obtained for a stagnant area bordering the creek and is not representative of the creek at this point. The specific conductance level at HRW-7 (799 micromhos) probably has been influenced from the discharge from the treated water basin No. 3B.

- Sulfate concentrations in every sample (except HRW-4) are above background groundwater and Delaware River sulfate concentrations.

- Ammonia and sulfate concentrations, together with specific conductance, are elevated above the Delaware River and upstream Hog Run Creek concentrations throughout the creek's course through the landfill. The seeps also show elevated ammonia concentrations.

- Levels of the priority pollutant metals not included in the interim primary drinking water parameters - antimony, beryllium, copper, nickel, thallium, and zinc - along with cyanide, are either below the limits of detection or at very low concentrations at all surface water and seep stations.

- Only one of the 32 priority pollutant volatile organic compounds was detected (15 ug/l trichloroethylene in HRW-2).

- Only one of the 46 base neutral compounds were detected (21 ug/l bis(chloroethyl) ether in HRW-7).

- No members of the acid extractable group of priority pollutants were detected. No pesticides, herbicides, or polychlorinated biphenyls (PCBs) were detected.

000089

All analytical results are tabulated in a separately bound document Appendix J. This review indicates that, as with the groundwater analyses, a limited set of parameters can be used to assess the surface water quality of Hog Run Creek and the Delaware River. The selected evaluation parameters are:

Specific conductance
Total organic carbon (TOC)
Chemical oxygen demand (COD)
Ammonia
Sulfate
Iron
Manganese
pH

The rationale for the first seven parameters is presented in Section 4.1.1. The pH is an important parameter in the evaluation of the potential aquatic toxicity of ammonia.

Discussions of surface water quality are provided in subsequent subsections are largely confined to these parameters. Other parameters enter into discussions when relevant.

4.2.1 Hog Run Creek

Stations HRW-1 and HRW-2, situated upstream on the east and west branch of Hog Run Creek, respectively show concentrations of evaluation parameters at levels (see Table 4-13) similar to that observed in the background groundwater monitoring wells (see Table 4-3). Specific conductance levels are 254 and 268 micromhos, respectively. Ammonia concentrations are 0.19 mg/l at both stations. The samples from HRW-3, HRW-6, and HRW-7 present, respectively, samples collected at the upstream, center, and downstream portions of the Hog Run within the landfill. The samples show consistently elevated levels of specific conductance and ammonia. Sulfate is elevated at 2 of the 3 stations.

HRW-5, a station along the east bank 600 feet downstream from River Road has specific conductance and sulfate concentrations seven times and nine times higher, respectively, than the two upstream sampling stations. The COD (135 mg/l), specific conductance (1,890 micromhos), ammonia (144 mg/l), and chloride (138 mg/l) concentrations in seep HRSP-3 were equivalent to nearby groundwater monitoring wells (LF-3A and LF-3B). HRSP-2, located nearby, shows similar concentrations.

Seep HRSP-1 has slightly elevated specific conductance (343 micromhos) and moderately elevated ammonia (3.4 mg/l) concentrations.

TABLE 4-13

HOG RUN SECTION EVALUATION PARAMETER CONCENTRATIONS[1]

Parameter	Sample Location Number									
	HRW-1	HRW-2	HRW-3	HRW-4	HRW-5	HRW-6	HRW-7	HRSP-1[2]	HRSP-2[2]	HRSP-3[2]
TOC	11	15	19	23	19	36	45	24	54	28
COD	39	8	30	41	98	26	660	18	62	135
Specific Conductance (Micromhos)	254	268	332	359	1,890	354	799	343	1,130	2,340
Ammonia	0.19	0.19	2.75	<0.05	3.80	3.60	7.00	3.4	68.5	144
Sulfate	52.6	61.0	100.1	30.2	501	49.3	113	48.2	35.9	17.3
Iron	0.31	0.34	0.48	0.74	17.7	0.81	0.54	3.31	0.41	0.38
Manganese	0.05	0.83	0.55	0.53	3.31	0.64	0.74	2.52	1.19	0.45
pH (standard units)	6.0	6.4	6.5	6.3	6.6	6.7	8.1	6.3	7.0	6.9

1. All results are in mg/l (ppm), except as noted.
2. This station is a seep from the bank of Hog Run Creek.

Source: BCM Eastern, Inc.; Project No. 00-4061-02

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The consistently elevated specific conductance and ammonia concentrations and frequently elevated sulfate concentrations in Hog Run Creek indicate that groundwater discharges are influencing the quality of Hog Run Creek. The discharge from Rohm and Haas's treated wastewater basin No. 3B is also exerting an influence. Due to the tidal mixing, it is anticipated that elevated concentrations of these and other evaluation parameters can be found throughout the tidal portion of Hog Run Creek.

The HRW-5 sample was collected from a stagnant point at the edge of Hog Run Creek, at the very periphery of the channel. Observation of a dark sheen resulted in the selection of this site. The high specific conductance level (1,890 micromhos) and elevated sulfate (500 mg/l) indicates the presence of a contaminant discharge to the creek.

Sampling station HRW-4 was at a very small ponded area along the perimeter ditch, immediately south of River Road, 600 feet west of Hog Run Creek. The analyses indicated that water had not been influenced by the landfill and that this water probably represented rainfall or stormwater ponded in a poorly draining area.

On February 23, 1984 five additional samples were collected in the headwater area of the west branch of Hog Run Creek north of monitoring wells LF-11 and LF-17. These samples were collected after a dark sheen was observed in this area. An ammonia concentration of 59.5 mg/l in a sample collected in a swampy area 100 feet northeast of LF-11 indicates that the west branch of Hog Run Creek is a discharge zone for leachate originating in the landfill (Table 4-14). A sample collected in the stream channel 400 feet further downstream had an ammonia concentration of 1.75 mg/l indicating rapid dilution in the stream.

The three sediment samples collected from the Hog Run channel were analyzed for the full set of analytical parameters. Sample HRSD-1, collected immediately downstream from River Road had concentrations of polynuclear aromatic compounds (base/neutral group) ranging between 310 and 2,200 ug/kg (parts per billion - ppb). These compounds, typical products of combustion, are highly insoluble, and are probably unrelated to study area groundwater. HRSD-2, collected midway between River Road and the Delaware River, is notable only for its lead concentration (2,990 mg/kg). This, too, is probably unrelated to study area groundwater. Six hundred and twenty (620) ug/kg of 4-nitrophenol was also detected. HRSD-3, collected near the mouth of Hog Run Creek had no notable concentrations of inorganic or organic parameters.

4.2.2 Delaware River

Delaware River samples were collected at three locations - upstream from Trenton Falls (DRW-1) beyond the reach of tide, the Pennsylvania Fish Commission access area in Bristol Borough (DRW-2), and at the China Lane Marina in Bristol Township (DRW-3). DRW-2 and DRW-3 samples were

000092

TABLE 4-14

WEST BRANCH HOG RUN STATION AND UNNAMED STREAM
EVALUATION PARAMETER CONCENTRATIONS [1]

Parameter	Sample Location Number							
	WBHRC *					UNS **		
	1	2	3	4	5	1	2	3
COD	37	115	86	110	4	<4	47	
Specific Conductance (micromhos)	246	230	1,340	100	481	210	212	
Ammonia	1.75	<0.05	0.86	<0.05	0.2	<0.05	0.25	
Sulfate	33.1	39.7	51.9	14.2	130	33.1	25.3	
Iron	0.48	0.20	18.6	0.55	2.93	0.16	7.64	
Manganese	0.04	<0.02	0.76	0.15	1.41	<0.02	0.35	
pH (standard units)	6.2	5.5	5.7	6.0	6.4	6.1	4.5	

1 All results are in mg/l (ppm), except as noted.
* WBMRC = West Branch Hog Run Creek
** UNS = unnamed stream flowing westward from headwaters of WBMRC .

Source: BCM Eastern, Inc.; Project No. 00-4061-02

000093

collected during the falling tidal stage, near low tide. The specific conductance, iron, manganese, ammonia, and chloride levels were all higher downstream from Trenton falls. Ammonia which was measured at less than detectable (<0.08 mg/l) upstream from Trenton Falls was measured at 0.2 and 0.26 mg/l in the two downstream locations, respectively (Table 4-15).

The river bank seep sample (DRSP-1), which is a composite of several locations along a seep line of the Delaware River beach, had an ammonia concentration of 1.5 mg/l and specific conductance level of 343 micromhos. These concentrations show an influence from the landfill.

The United States Geological Survey in Trenton, New Jersey was contacted to obtain water quality records for the water quality monitoring stations at Trenton, Burlington Bristol Bridge, and at the Torresdale intake in Northeast Philadelphia. Of particular interest were data for specific conductance and ammonia. Minimal ammonia data were available for Burlington Bristol or Torresdale, but there was sufficient data for the Delaware River at Trenton (upstream from Trenton Falls) to establish a representative average concentration. Analytical data for forty-five samples for the period of August 1970 through September 1981 were reviewed. The average concentration was computed to be 0.073 mg/l. Thirty-six specific conductance values (using only the value for the first day of the month) for the period January 1981 through January 1984 revealed an average concentration of 175 micromhos at Trenton. The average ammonia concentration using U.S.G.S. data in the Delaware River at Bristol from April 1978 to April 1979 was 0.2 mg/l.

4.3 SOIL CONDITIONS

Discussion of laboratory analysis results from tests conducted on soil samples is presented by both area sampled and by parameter group tested (see section 3.4.2). This approach was selected to highlight any potential area contaminated by specific groups of pollutants.

Where available, literature values for certain parameter concentrations in "typical" soils are presented for comparison purposes. It should be noted that, from Table 3-5, not all parameters were tested in all samples. Since subsurface samples of waste material at the Bristol Township Sewage Treatment Plant and soil borings at the former Mosquito Control Commission site were collected, these results are presented separately from those for the other surficial soil samples. The complete set of soil chemical analyses are presented in Appendix J.

The range of concentrations for the metals tested in the surficial soils are reported in Table 4-16. Also shown in Table 4-16 are reported literature values for some of the elements.

TABLE 4-15

DELAWARE RIVER STATIONS EVALUATION PARAMETER CONCENTRATIONS (1)

Parameter	Sample Location Number			
	DRW-1	DRW-2	DRW-3	DRSP-1[2]
TOC	23	17	8	54
COD	16	20	12	<4
Specific Conductance (micromhos)	192	197	218	343
Ammonia	<0.08	0.20	0.26	1.5
Sulfate	24.6	25.5	---	63.06
Iron	0.11	0.15	0.18	0.78
Manganese	<0.02	0.04	0.04	7.5
pH, standard units	7.0	7.0	7.0	6.8

1. All analyses are in mg/l (ppm), except as noted.
2. This station is a seep from the bank into the Delaware River.

Source: BCM Eastern, Inc.; Project No. 00-4061-02

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TABLE 4-16

SUMMARY OF METAL CONCENTRATIONS IN SOIL (1)

Parameter	North Perimeter Areas A - D (4 samples)	Mary Devine School and Adjacent Ballfields (4 samples)	Bristol Township WWTP Soil (2 samples)	Maple Beach West (1 sample)	Control - Maple Beach East (1 sample)	Reported Data for Trace Elements in Soil(2) Range	Typical
Arsenic	0.24 - 3.80	0.32 - 4.2	2.30 - 2.76	5.2	8.0	0.1 - 40	6
Barium	15.3 - 44.8	15.4 - 54.4	26.4 - 36.6	N/C***	N/C	100 - 3,000	500
Beryllium	<0.4	<0.4 - <0.5	<0.4	<0.4	<0.4	---	---
Cadmium	<0.4	<0.4 - <0.5	<0.4	<0.4	<0.4	0.02 - 1.4	0.25
Chromium	<1.6	<2.0	<1.6	<1.6	2.61	10 - 3,000	100
Copper	2.98 - 6.49	4.39 - 7.21	10.7 - 24.4	5.09	7.89	4 - 200	10
Mercury	<0.1	<0.1	<0.1	<0.1	<0.1	0.01 - 0.3	0.03
Manganese	16.4 - 195	N/C	150 - 185	310	N/C	100 - 4,000	850
Nickel	<4.0 - 5.4	N/C	6.69	N/C	N/C	10 - 1,000	40
Lead	25.2 - 44.8	19.5 - 28.5	5.58 - 15.2	133	29.2	2 - 200	20
Silver	<0.8	<1.0	<0.8	<0.8	<0.8	---	---
Antimony	<6.0	<8.5	<6.0	<6.0	<6.0	---	---
Selenium	<0.04 - 0.58	<0.04 - 0.067	<0.04	<0.04	0.04	0.01 - 2	0.2
Tin	<30	N/C	<30	<30	N/C	2 - 200	10
Thallium	<12	<15	<12	<12	<12	---	---
Zinc	16.7 - 41.6	25.0 - 84.9	35.9 - 52.1	32.7	55.1	10 - 300	50

1. All results are in mg/kg (ppm), dry weight basis.
2. Source: Page, A. L. and Chang, A. C., 1978

N/C Not yet completed

Source: BCM Eastern, Inc., except as noted; Project No. 00-4061-02

The only detectable levels of organic priority pollutants of any significance found in all surficial soil samples were certain polynuclear aromatic hydrocarbons (PNA's) found in low concentrations in the Maple Beach West (of Route 413) composite sample. These data are summarized in Table 4-17.

Data from analysis of composite waste samples (both surface and subsurface) and three soil boring samples at the Bristol Township Sewage Treatment Plant are summarized in Table 4-18. Also presented are data from the six composite soil boring samples taken at the former Mosquito Commission site. Low concentrations of four volatile organic compounds were detected in the subsurface waste sample only. Toluene was present at a concentration of 800 parts per billion (ppb). A concentration of 13 mg/kg (ppm) for 2,4-dimethylphenol is reported. No detectable concentrations of DDT or its metabolites were observed in either the surface or subsurface waste samples.

Detectable levels of DDT and its decomposition products (metabolites) were measured in some of the Mosquito Commission boring composite samples. The highest observed DDT concentration (880 ppb) was detected in a composite sample formed from the upper 2 feet of soil taken from two of the four borings. A similar composite sample of soil from the 0 to 2 foot depth range from the other two borings showed no detectable concentrations of DDT or its metabolites.

4.4 AIR QUALITY IMPACTS

4.4.1 Grid Sampling Program

The results of the 200 point grid screening sampling program with the Flame Ionization and Photo Ionization detectors (FID and PID) instruments indicated that two locations were found to have twice background concentrations of organic vapors. However, these elevated readings were only detected with the FID and not the PID, thus indicating a strong possibility that the contaminant was methane. (An FID is capable of detecting methane whereas a PID is not.) Both instruments would indicate responses similar to each other if another type of organic was present.

In addition to the FID and PID screening sampling, BCM performed charcoal-filled tube testing at several grid locations for the four target compounds. The concentrations were found to be below the detectable limits of the analytical methods. Future permanent perimeter monitoring is being performed for longer periods of time in order to increase the sensitivity of the method. Results are summarized in Table 4-19.

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TABLE 4-17

SUMMARY OF DETECTED ORGANIC PRIORITY POLLUTANTS (1)
MAPLE BEACH WEST COMPOSITE SOIL SAMPLE

Parameter	Concentration Parts per Billion (ppb) Dry Weight Basis
Fluoranthene	360
Pyrene	280
Benzo(a)anthracene	220
Chrysene	240
Benzo(b)fluoranthene	220 (2)
Benzo(k)fluoranthene	220 (2)
Benzo(a)pyrene	240

(1) Source: BCM Eastern, Inc.; Project No. 00-4061-02
(2) Indistinguishable Isomers

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TABLE 4-18

CONCENTRATION RANGE SUMMARY OF SOIL BORING
AND SURFACE WASTE ANALYSES

Parameter	Bristol Township Sewage Treatment Plant		Mosquito Commission Soil Borings (6 Samples)
	Subsurface Waste (1 Sample)	Surface Waste (1 Sample)	
Metals (1)			
Arsenic	1.40	0.35	N/A
Barium	11.0	5.38	N/A
Beryllium	<0.40	<0.48	N/A
Cadmium	<0.40	<0.48	N/A
Chromium	7.51	<2.0	N/A
Copper	7.19	16.9	N/A
Mercury	<0.10	<0.10	N/A
Manganese	86.6	20.4	N/A
Nickel	5.40	<5.0	N/A
Lead	<4.80	<5.8	N/A
Silver	<0.8	<0.96	N/A
Antimony	<6	<8.5	N/A
Selenium	<0.04	<0.048	N/A
Tin	<30.0	<30.0	N/A
Thallium	<12.0	<15.0	N/A
Zinc	<56.0	8.51	N/A
Organic Priority Pollutants (2, 3)			
4,4' DDT	<8,000 (4)	<60,000 (4)	<2.0 - 880
4,4' DDE	<8,000 (4)	<60,000 (4)	<2.0 - 57
4,4' DDD	<8,000 (4)	<60,000 (4)	<2.0 - 74
Beta-BHC	<8,000 (4)	<60,000 (4)	<2.0 - 2.9
Trans-1,2-Dichloroethylene	90	<10	N/A
Trichloroethylene	12	<10	N/A
Benzene	200	<10	N/A
Toluene	800	<10	N/A
Formaldehyde (mg/kg)	4.7	1.09	6.13 - 23.4
2,4-Dimethylphenol	13,000	<500	N/A

1. Results in mg/kg (ppm)
2. Results in ug/kg (ppb), except as noted
3. Detection limit affected by matrix interference from substantial organic content
4. These substances were analyzed by GC/MS. Because of interferences during the analyses, lower detection limits could not be obtained.

N/A - Not to be analyzed

Source: BCM Eastern, Inc.; Project No. 00-4061-02

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TABLE 4-19

GRID AIR SAMPLING
TARGET COMPOUNDS
November 21, 1983 *
(parts per billion)

Location	Benzene	Acrylonitrile	EDC	TCE
AG-18	<25	<73	<78	<44
AG-21B	<23	<67	<72	<41
Well CR-9	<22	<66	<70	<40
Upwind (PSL3)	<21	<63	<68	<38
AG-40	<24	<71	<76	<43

*. N to NW winds during the period of testing

Source: BCM Eastern, Inc.; Project No. 00-4061-03

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4.4.2 Permanent Perimeter Air Sampling

Permanent perimeter location sampling (refer to Figure 3-5) was performed with the TAGA system testing as well as on a biweekly basis with charcoal tubes and personnel sampling points. The purpose of the sampling simultaneous to the TAGA system testing was to establish a "baseline" with respect to organic vapors entering or leaving the primary waste disposal area which could then be compared to the TAGA data. As a result, future permanent perimeter sampling location data might enable us to estimate whether or not the rate at which organic gases were leaving the landfill had changed. Table 4-20 presents the data determined from this phase of the program.

Based on results of the perimeter location sampling performed by the TAGA system, xylene and toluene were added to the target compound list for the biweekly program which continued on February 10, 1984. Results are summarized in the Table 4-21.

4.4.3 TAGA System Testing

The TAGA 6000 system analytical results for the five perimeter monitoring sites are summarized in Table 4-22. The results are time-weighted averages for each compound over a minimum of two minutes. At approximately 2 seconds per reading, this value corresponds to a minimum of 60 discrete samples per average value.

The analytical results for the eight grid air bag samples are given in Table 4-23. Each set of parent/daughter ions were monitored for 2 minutes giving an average over 60 discrete sampling points. These values reported were confirmed by agreement of both sets of parent/daughter ion pairs as well as positive matching of the CID spectrum with the library spectrum of standards.

All bag samples were collected from grids located in the northwest corner of the primary waste disposal area (refer to Figure 3-6). Toluene was detected in grid number AG-2A & AG-13. Xylene was detected at grid AG-6. Grid AG-2A appears to be an emission source of benzene as it is elevated over the background concentration. Even though the benzene level determined from the grid bag was elevated over the background value, the permanent perimeter samples did not indicate a detectable level was present. It would be expected that dilution will occur over distance. However, the biweekly sampling programs will continue. At this point, the data must be considered preliminary due to the fact the air monitoring program is in its early stages and only after three or four months will trends begin to be established.

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TABLE 4-20

PERMANENT PERIMETER AIR SAMPLING
(Parts per Billion)

Location	Date*	Benzene	Acrylonitrile	EDC	TCE
PSL-1	1/9	<11	<33	<35	<20
PSL-2	1/9	<10	<32	<35	<19
PSL-3	1/9	<11	<32	<36	<20
PSL-4	1/9	<10	<29	<31	<18
PSL-5	1/9	<10	<32	<34	<19
PSL-6	1/9	<10	<31	<33	<19
PSL-1	1/10	<20	<59	<64	<36
PSL-2	1/10	<13	<38	<41	<23
PSL-3	1/10	<13	<39	<42	<24
PSL-4	1/10	<12	<35	<37	<21
PSL-5	1/10	<12	<37	<39	<22
PSL-6	1/10	<13	<38	<41	<23

* Wind direction during 1/9/84 sampling N-NW and N-NW switching to SW in late p.m. for 1/10/84 program.

Source: BCM Eastern, Inc.; Project No. 00-4061-03

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TABLE 4-21

PERMANENT PERIMETER SAMPLING
February 10, 1984
WIND DIRECTION: N-NW
(Parts per Billion)

Location	Benzene	Acrylonitrile	EDC	TCE	Toluene	xylene	xylene
PSL-1	< 9	<27	<29	<16	< 7	<7	<13
PSL-2	< 9	<26	<28	<16	< 7	<6	<13
PSL-3	<12	<34	<37	<21	<10	<8	<17
PSL-4	<10	<30	<32	<18	< 8	<7	<15
PSL-5	< 9	<26	<28	<16	< 7	<6	<13
PSL-6	< 9	<27	<29	<16	< 8	<7	<13

Source: BCM Eastern, Inc.; Project No. 00-4061-03

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TABLE 4-22

TAGA PERIMETER AIR MONITORING RESULTS
JANUARY 9, 1984
WIND DIRECTION: N-NW
(Parts per Billion)

Target Compound (Matrix Detection Limit)	Site A	B	C	D	E
Methyl acrylate (133 ppb)	ND	ND	ND	ND	ND
Ethyl acrylate (19 ppb)	ND	ND	ND	ND	ND
Butyl acrylate (6 ppb)	ND	ND	ND	ND	ND
Acrylonitrile (12 ppb)	ND	ND	ND	ND	ND
Toluene (7 ppb)	ND	ND	ND	ND	ND
Styrene (3 ppb)	ND	ND	ND	ND	ND
Xylene (2 ppb)	ND	5	ND	ND	ND
Methyl ethyl ketone (57 ppb)	ND	ND	ND	ND	ND
Benzene (4 ppb)	ND	9	5	5	4
Trichloroethylene (29 ppb)	ND	ND	ND	ND	ND
Ethylene dichloride (360 ppb)	ND	ND	ND	ND	ND

ND = not detected

Source: BCM Eastern, Inc.; Project No. 00-4061-03

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TABLE 4-23

RESULTS OF GRID AIR BAG ANALYSIS
JANUARY 10, 1984
WIND DIRECTION: N-NW SWITCHING TO SW
(Parts per Billion)

Target Compoound (Matrix Detection Limit)	Grid Site						
	Blank Upwind	AG-1	AG-2	AG-2A	AG-6	AG-13	AG-14
Methyl acrylate (12 ppb)	ND	ND	ND	ND	ND	ND	ND
Ethyl acrylate (5 ppb)	ND	ND	ND	ND	ND	ND	ND
Butyl acrylate (94 ppb)	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile (11 ppb)	ND	ND	ND	ND	ND	ND	ND
Toluene (5 ppb)	5	ND	ND	18	ND	6	ND
Styrene (15 ppb)	ND	ND	ND	ND	ND	ND	ND
Xylene (28 ppb)	ND	ND	ND	ND	5'	ND	ND
Methyl ethyl ketone (16 ppb)	ND	ND	ND	ND	ND	ND	ND
Benzene (13 ppb)	9[1]	9[1]	7[1]	15	7[1]	7[1]	ND
Trichloroethylene (58 ppb)	ND	ND	ND	ND	ND	ND	ND
Ethylene dichloride (500 ppb)	ND	ND	ND	ND	ND	ND	ND

1. Presence indicated but below matrix detection limits
ND - not detected

Source: BCM Eastern, Inc.; Project No. 00-4061-03

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The detection limits shown in Tables 4-22 and 4-23 were calculated using three standard deviations of the background levels for the selected ions in the blank sample (i.e., sample taken upwind of points of interest). These detection limits should be interpreted as matrix related detection limits rather than method related detection limits. Matrix detection limits are established for each type of sampling performed. As shown in Tables 4-22 and 4-23, the matrix detection limits for each compound are different. For the perimeter monitoring program, the matrix detection limits were determined with upwind samples taken through the roof port. The grid bag matrix was established with an upwind sample from a sampling bag. The method detection limits are developed with specific standards and are determined to ensure the maximum sensitivity of the instrument. The method detection limits would be based on three standard deviations of the background noise of the instrumentation with no sample entering the ion source. These method detection limits are lower than the matrix limits in the tables. Those samples with values reported at concentrations below the matrix detection limit should be considered only as estimates of concentrations due to the possible background contributions to the quantification.

A general screen of parent ions was also performed on each sample to determine the presence of significant quantities of nontarget compounds. Significant quantities of nontarget compounds were not found during either perimeter location or grid sampling by the TAGA system.

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	Page
5.0 ENVIRONMENTAL ASSESSMENT	
5.1 Water Quality	5-1
5.1.1 General	5-1
5.1.2 Ammonia	5-1
5.1.2.1 Ammonia Oxygen Demand	5-2
5.1.2.2 Aquatic Toxicity of Ammonia	5-2
5.1.3 Other Inorganic	5-4
5.1.4 Oxygen Demand	5-5
5.1.5 Other Organic Compounds	5-5
5.2 Soil Conditions	5-7
5.3 Air Quality	5-8

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5.0 ENVIRONMENTAL ASSESSMENT

5.1 WATER QUALITY

5.1.1 General

The principal findings with respect to the effect of the landfill on local and regional groundwater and surface water quality are:

1. All groundwater beneath the landfill discharges to Hog Run Creek and the Delaware River. Groundwater beneath the landfill does not flow to any residential areas.

2. Overland runoff does not come in contact with landfill wastes and consequently does not adversely affect water quality.

3. Elevated concentrations of ammonia were detected at most of the groundwater and Hog Run Creek sampling points influenced by the landfill.

4. Oxygen demanding substances were also extensively detected at elevated concentrations.

5. Elevated heavy metal concentrations were not detected in groundwater or surface water.

6. Priority pollutant and other organic compounds were not extensively found in groundwater flowing from beneath the landfill. The isolated concentrations detected do not represent significant concentrations.

7. TCE in groundwater originating in the residential area north of Hog Run Creek flows under artesian conditions and is a likely source of the TCE detected in monitoring wells near manufacturing area B.

5.1.2 Ammonia

The substance present in groundwater and surface water in the most environmentally significant concentrations was ammonia. The two environmental effects of ammonia are oxygen demand and toxicity of the un-ionized form of ammonia to aquatic organisms.

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5.1.2.1 Ammonia Oxygen Demand

Ammonia is an oxygen demanding substance in surface waters because it is biologically oxidized by various bacteria. This oxidation process occurs in two steps, proceeding first to the formation of nitrites and then to the formation of nitrates. On a mole basis, each mole of ammonia consumes two moles of oxygen. On a weight basis, 1 pound of Ammonia-N (that is, ammonia-nitrogen) will consume about 4.6 pounds of oxygen. The first part of this conversion of the ammonia to nitrites is a fairly slow process and it is likely that the short residence time in Hog Run Creek will allow little oxygen depletion within the creek itself. Upon entering the Delaware River, the oxidation of ammonia continues, but will not result in any measurable oxygen depletion due to the substantial dilution of the Hog Run Creek discharge by the Delaware River.

The actual quantity of ammonia entering Hog Run Creek and the Delaware River at the time of sampling is difficult to estimate because of the considerable range of ammonia concentrations found. The simple mean of the ammonia concentrations in the monitoring wells adjacent to the various segments of Hog Run Creek and the Delaware River has been used to estimate the amount of ammonia entering each segment. The results of these calculations are presented in Table 5-1.

This quantity of ammonia discharged from the landfill (28 pounds) is equivalent to the ammonia discharge of a domestic sewage treatment plant of about 165,000 gallons per day capacity assuming an average effluent ammonia concentration of 20 mg/l. This is equivalent to the discharge from a community of 2,200 persons.

The mean flow in the Delaware River at Trenton, New Jersey (nearest river flow gaging station) is 11,700 cubic feet per second (cfs). The average Delaware River ammonia concentration using USGS data from April 1978 to April 1979 (Delaware River at Bristol, Pennsylvania) is 0.2 mg/l. Thus, the total ammonia flow in the Delaware River is approximately 12,600 pounds per day (ppd). With this large total flow, the additional 28 pounds per day from the landfill site has no measurable effect on the quality of the water in the Delaware River.

5.1.2.2 Aquatic Toxicity of Ammonia

Ammonia in water is present in two different forms -- the ammonium ion form (NH_4^+) and the un-ionized (dissolved gas) form (NH_3) - which are in equilibrium. The ammonium ion is not toxic at the ammonia concentrations observed in Hog Run Creek or the Delaware River (0.2 to 7.0 mg/l). The un-ionized form is considered toxic to aquatic life under certain environmental conditions. Actual ammonia measurements are of total ammonia and are recorded as ammonia-nitrogen (NH_3-N). The relative concentrations of the ammonium ion and un-ionized ammonia depend on both

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TABLE 5-1

ESTIMATES OF AMMONIA CONCENTRATIONS DISCHARGED
TO HOG RUN CREEK AND THE DELAWARE RIVER

Stream Segment	Monitoring Wells Used	Mean Concentration (mg/l)	Estimated Groundwater Flow (gallons per day)	Ammonia Discharge (pounds per day)
West Branch Hog Run Creek	LF-11, LF-12	65	3,600	1.9
East Branch Hog Run Creek	CR-1, CR-7	<0.05	25,900	<0.01
West Bank Hog Run Creek	LF-2, LF-3A & LF-B	104	12,900	11.2
East Bank Hog Run Creek	CR-8, CR-9, CR-10 CR-11	5.3	15,500	0.7
Delaware River West of Hog Run Creek	LF-4, LF-5, LF-6A LF-7	37.0	25,900	8.0
Delaware River East of Hog Run Creek	CR-13A & CR-13B CR-14	5.9	127,300	6.3
TOTALS			211,100	28.1

Source: BCM Eastern, Inc.; Project No. 00-4061-02

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pH and temperature of the water at the time of sampling. Under normal environmental conditions, the ammonium ion form will predominate. Higher temperatures and higher pH shift the equilibrium to form higher relative concentrations of un-ionized ammonia.

The U.S. EPA has recently proposed ambient water quality criteria for ammonia to protect freshwater aquatic life (Federal Register, February 7, 1984, p. 4551-4552). The proposed criteria for ammonia are expressed for both un-ionized ammonia and total ammonia. Maximum and 30-day average allowable concentrations were proposed at various conditions of temperature and pH. At the time of sampling (November 22 - 23, 1983), the ammonia concentrations at HRW-7 near the mouth of Hog Run Creek (7 mg/l) exceeded the proposed maximum allowable concentration for total ammonia-nitrogen (2.7 mg/l) for the recorded temperature (12°C) and pH (8.3) conditions. No other stations exceeded the proposed criteria.

As indicated, temperature at the time of sampling was 12°C. If the temperature were raised to about 20°C, two additional sites would not meet the proposed average criteria for ammonia. Temperatures of 20°C would be expected during the warmer months in Hog Run Creek. The samples were taken during low tide. At high tides, waters from the Delaware River should limit the duration of any impact through dilution.

The ammonia concentration (0.26 mg/l) in the Delaware River at the DRW-3 downstream from Hog Run Creek is well below the proposed maximum allowable concentration (31.9 mg/l) and the proposed average allowable concentration (6.83 mg/l) based on recorded temperature and pH.

5.1.3 Other Inorganic Parameters

Most inorganic parameters which were identified in study area groundwater were present in low concentrations. In addition to ammonia, only sulfate was present at sufficient concentrations to be found in the surface waters of Hog Run Creek at elevated levels.

The recommended secondary drinking water criterion for sulfate of 250 mg/l was exceeded at one Hog Run Creek station (501 mg/l at HRW-5). This sample was not taken in mid-channel; it was collected at a stagnant area immediately adjacent to the stream bank. The sulfate is more representative of a probable seep at this location prior to full dilution by the creek rather than Hog Run Creek water quality. Sulfate concentrations at the other Hog Run Creek stations did not exceed 120 mg/l. The tolerance of aquatic organisms to sulfate is sufficiently high that no environmental impact from sulfate is indicated in Hog Run Creek or the Delaware River.

5.1.4 Oxygen Demand

Three types of measurements for oxygen demanding substances in water were used in this project: BOD_5, TOC, and COD. BOD_5 (biochemical oxygen demand) is a measure of oxygen consumed in five days by the sample and is an indicator of oxygen-demanding substances present in water. COD (chemical oxygen demand) is a similar indicator of oxygen-demanding substances as measured by the quantity of a strong oxidizing chemical consumed by a sample of water to which this chemical is added. This test is more rapid than the BOD_5 test and will normally produce higher results.

TOC (total organic carbon) is a measure of the carbon compounds present in water after carbon dioxide and carbonates are removed. This test is considered an absolute measure of organic compounds in water. Under normal environmental conditions, the value obtained for TOC would usually be between the value obtained for BOD_5 and COD. At the site, the value for TOC was frequently much greater than the COD. This would indicate the presence of organic material which is not easily oxidized under the conditions of the BOD_5 or COD tests and/or the presence of low boiling point organics, which, using standard sampling and laboratory methods, are not normally detected during the BOD_5 and COD analyses. Organic material present in suspended solids may also be undetected by BOD or COD measurements. Several low boiling point organics were analyzed for directly and were not found in significant concentrations.

COD was used for the assessment of the impact of groundwater on oxygen demand. Table 5-2 presents an estimate of the COD which will enter surface water from the landfill groundwater. These data were calculated in the same manner as ammonia (Section 5.1.2.2). One hundred and fifteen pounds per day of COD from the landfill area will enter the surface waters. This quantity of COD would correspond to the COD discharge from a domestic wastewater treatment plant serving a population of 2,200 persons, assuming an average COD in the effluent of 50 mg/l. The portion of the total COD originating from the groundwaters which enter Hog Run Creek is 33.4 pounds per day. These quantities are insignificant in comparison with 1.26 million pounds per day COD loading measured in the program in the Delaware River at Bristol (20 mg/l).

5.1.5 Other Organic Compounds

Twenty-seven organic priority pollutant compounds were detected in low concentrations in the study area groundwater. Of these compounds, only trichloroethylene (TCE) at 17 ug/l in HRW-2, and bis(2-chloroethyl) ether (BCEE) at 21 ug/l in HRW-7 were detected in the surface waters or seeps. Neither of these compounds are environmentally significant in the surface water at these locations.

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TABLE 5-2

COD CONCENTRATIONS AT THE
ROHM AND HAAS STUDY AREA

Section	Wells	COD Mean Concentration (mg/l)	Groundwater Flow (gallons per day)	COD Mass Load (pounds per day)
West Branch of Hog Run Creek	LF-11, LF-12	125	3,600	3.8
Each Branch of Hog Run Creek	CR-1, CR-7	30	25,900	6.5
West Bank of Hog Run Creek	LF-2, LF-3A & LF-3B	88	12,900	9.4
East Bank of Hog Run Creek	CR-8, CR-9, CR-10, CR-11	107	15,500	13.8
Delaware River West of Hog Run Creek	LF-4, LF-5, LF-6A, LF-7	126	25,900	27.2
Delaware River East of Hog Run Creek	CR-13A & CR-13B, CR-14	51	127,300	54.2
		TOTALS	211,100	114.9

Source: BCM Eastern, Inc.; Project No. 00-4061-02

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Trichloroethylene was detected in five monitoring wells north of the East Branch Hog Run Creek and in ten wells in and near manufacturing area B. The source of the TCE in the five wells north of the creek, all five of which are on the perimeter of a residential area partially served by private onsite water supply wells, has not been identified but is not from the Rohm and Haas property. Instead the source or sources are probably nearby septic tanks or industrial operations. The TCE in the groundwater south of the East Branch of Hog Run Creek will discharge to shallow groundwater and then to Hog Run Creek or treated water basin No. 1 and due to low concentrations, volatilization, and dilution, will have no impact on aquatic biota.

5.2 SOIL CONDITIONS

Soil sampling data revealed no contamination at the Mary Devine School, ballfields, or northern perimeter areas. Therefore, the surface soils pose no threat to human health or the environment in these areas.

The soils at the site of the former Bucks County Mosquito Control Commission showed detectable levels of DDT and its derivatives; presumably residues from former Commission operations. The highest level (880 ppb) was detected in a composite sample formed from soil taken from the 0 to 2 foot depth range.

While DDT and its metabolites have been detected in soil at the former Mosquito Commission property, these concentrations must be placed in perspective. For instance, current EPA regulations allow the following maximum tolerances for residues of DDT and its degradation products in or on selected processed foods:

- 80,000 ppb in or on dried hops (DDT only)
- 6,000 ppb in crude soybean oil (DDT only)
- 1,250 ppb on milk-fat basis in manufactured dairy products (DDT and degradation products)

This comparison does not make light of the fact that DDT and its metabolites are present in these soils; it merely indicates that the levels detected pose no threat to human health or the environment.

Detected levels of the polynuclear aromatic hydrocarbon compounds (PNA's) found in the composite surface soil sample from the Maple Beach West area pose no threat to human health or the environment.

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Levels of volatile organic compounds (primarily benzene and toluene) detected in the subsurface waste composite sample collected from the Bristol Township Sewage Treatment plant property pose no threat to human health or the environment in their present buried condition. However, should this material be disturbed through excavation or by other means, appropriate measures for personnel protection should be considered. Analytical results from the surface waste composite sample show that this material poses no threat to human health or the environment.

Analytical results from the composite soil sample collected from the Maple Beach East area (control) show that surface soil in this area is free of contamination and poses no threat to human health or the environment.

5.3 AIR QUALITY

The data generated from the diverse sampling methods (i.e., permanent perimeter, grid, and TAGA system) indicate that, with three exceptions, the concentrations of the 11 target compounds are not increased or caused by the presence of the landfill. Benzene, toluene and xylene were found to exist above the background levels but below the Air Management Services (AMS) guideline[1]. The AMS guideline is 24 parts per billion for benzene (15 ppb was detected at grid site AG-2A) and above 200 ppb for both toluene and xylene (18 ppb toluene was detected at grid site AG-2A and 5 ppb xylene was detected at TAGA perimeter location B). The air monitoring biweekly program is continuing and as more data are collected, it will be possible to determine if there is a significant emission of organic vapors from the landfill.

The data collected to date show that there is no significant impact on air quality from the landfill at this time.

At this point, it is not possible to rule out the landfill as a source from which organic materials will enter the atmosphere at a significant level. Climatic conditions at the time of sampling may have minimized these discharges, as described below:

1. Fall/Winter temperatures decrease the rate of volatilization of organic compounds at or near the surface.

2. The frozen topsoil could be preventing the loss of vapors from the landfill.

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1 Ciciretti, N.J., "A Protocol For Establishing Ambient Air Quality Guidelines for Toxic Air Contaminants", Philadelphia, Air Management Services Staff Engineer.

3. Snow cover will further minimize the passage of organic vapors from subsurface locations to the air surrounding the landfill.

4. Soil moisture, increased by rains in December 1983 may be absorbing subsurface organic vapors, thus reducing any concentrations which might exist above the landfill.

5. The rise and fall of qroundwater levels may increase or decrease the discharge of organic vapors.

BCM is continuing to perform permanent perimeter testing in order to determine if, as warmer weather approaches, an increase in the net gain concentrations across the landfill occurs. In addition, the TAGA 6000 system is scheduled for a 5-day visit in May 1984 to confirm whether any impact is due to the materials contained in the landfill. At the completion of the monthly sampling of the permanent perimeter locations in September 1984 and the additional TAGA data collected in May 1984, a more definitive conclusion will be developed regarding air quality impacts from the landfill.

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APPENDIX A
LANDFILL HYDRAULIC CONDUCTIVITY TESTING

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APPENDIX A

LANDFILL HYDRAULIC CONDUCTIVITY TESTING

1.1 LANDFILL HYDRAULIC CONDUCTIVITY MEASUREMENTS

The hydraulic conductivity (commonly referred to as permeability) of the landfill geologic materials was measured utilizing insitu slug or pumping recovery testing in selected monitoring wells. The field tests consisted of submerging a solid slug (PVC pipe filled with sand) beneath the well water level. The water level would rise, reflecting the slugs displacement, and subsequently fall back to it's initial level. The slug was then removed from the well, resulting in a drop in the water level. The rate at which the water level rose, a function of the hydraulic conductivity of the surrounding material, was measured with a pressure transducer. The water level readings from the transducer were recorded by an electronic device and accessed after completion of the test. In slowly recovering wells (CR-3C and CR-4C), the water level recovery was measured with an electric well probe.

Two Shelby tube samples of saprolitic bedrock were laboratory tested for hydraulic conductivity. The results for samples from wells LF-6A and CR-12A were both 0.01 feet per day.

1.2 LANDFILL HYDRAULIC CONDUCTIVITY CALCULATIONS

The permeability calculation methodology (Bower and Rice, 1976), calculation variables and calculated hydraulic conductivity values are presented in Table A-1. The field measurements are listed in Table A-2 and plotted in Figures A-1 through A-10.

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TABLE A-1

LANDFILL INVESTIGATION
IN SITU HYDRAULIC CONDUCTIVITY TESTING CALCULATIONS

Well No.	Calculation Variables: Yt (ft)	t (min)	Yo (ft)	L (ft)	r_c (ft)	r_w (ft)	l/rw	H (ft)	Partially Penetrating Aquifer A	B	Fully Penetrating Aquifer C	D (ft)	K Hydraulic Conductivity (cm/sec)	(ft/day)	Approximate Well Yield (gpm)
CR-1*	1.95	1.0	2.50	5.0	0.16	0.42	11.90	11.42	--	--	1.7	11.42	6.8×10^{-4}	1.930	3
CR-3C*	28.5	15.00	30.8	10.00	0.16	0.33	30.00	61.00	--	--	2.0	61.00	1.21×10^{-5}	3.4×10^{-2}	1-2
CR-4A*	0.18	1.0	0.24	20.0	0.16	0.42	47.62	42.8	--	--	2.5	42.8	3.20×10^{-4}	9.072×10^{-1}	18
CR-4B	0.64	0.16	1.02	10.0	0.16	0.42	23.81	13.17	2.0	0.5	--	50.0	4.20×10^{-3}	1.191×10^{1}	5
CR-4B	0.78	1.67	10.50	10.0	0.16	0.42	23.81	12.25	2.0	0.5	--	50.0	1.98×10^{-3}	5.60	5
CR-4C*	83.32	15.00	85.92	10.00	0.16	0.33	3.00	85.21	--	--	2.0	30.00	5.04×10^{-6}	1.4×10^{-2}	0.5
CR-6	1.77	0.33	1.80	15.0	0.16	0.42	35.70	13.78	2.5	0.7	--	50.0	4.65×10^{-5}	1.319×10^{-1}	6
CR-9*	2.12	0.33	2.40	15.0	0.16	0.42	11.91	19.00	--	--	2.2	19.00	4.65×10^{-4}	1.318	4
CR12A*	0.94	0.16	1.80	5.0	0.16	0.42	23.81	29.57	--	--	1.7	29.57	1.30×10^{-2}	3.715×10^{1}	5
CR12B	1.10	0.10	1.62	10.0	0.16	0.42	23.81	10.00	2.0	0.5	--	50.0	5.28×10^{-3}	1.498×10^{1}	15-20
CR13A	2.40	0.10	3.31	10.0	0.16	0.42	23.81	25.48	2.0	0.5	--	50.0	4.78×10^{-3}	1.354×10^{1}	10
CR13A	0.56	2.0	1.20	10.0	0.16	0.42	23.81	24.75	2.0	0.5	--	50.0	6.72×10^{-4}	1.901	10
LF8	0.84	2.0	2.0	10.0	0.16	0.42	23.81	11.50	--	0.6	--	50.0	5.29×10^{-4}	1.498	
LF11	7.2	1.0	12.9	10.0	0.16	0.42	23.81	15.90	2.1	0.6	--	50.0	7.41×10^{-4}	2.102	20
LF13	0.06	2.0	1.6	10.0	0.16	0.42	23.81	10.15	2.0	0.5	--	50.0	2.0×10^{-4}	5.67×10^{-1}	

*Well screened in saprolite/bedrock.
Calculations for CR4B and CR13A were computed twice using different values for Yt, t, and Yo.

Explanation of variables:

Yt = drop in water level at time t (feet)
t = time yt is measured (minutes)
Yo = drop in water level at time 0 (feet)
L = length of screen through which water enters well (feet)
r_c = radius inside well casing (feet)
r_w = radial distance from well center to undisturbed aquifer (feet)
L/rw = For well fully penetrating aquifer thickness:
H = submergence of well into water table (feet)
A = coefficient for well that partially penetrates aquifer, relating Re/r_w to L/rw
B = coefficient for well that partially penetrates aquifer, relating Re/r_w to L/rw
C = coeffiencit for (well that fully penetrates aquifer thickness, relating Re/r_w to L/rw
D = aquifer thickness (feet)
K = hydraulic conductivity (length/time)

Equations:

For well partially penetrating aquifer thickness:

$$\ln Re/r_w = \left(1.1 + \frac{A + B \ln [D-H/rw]}{\ln (H/r_w)} \cdot \frac{}{L/r_w}\right)^{-1}$$

$$K = \frac{rc^2}{2L} \ln (Re/r_w) \left(\frac{1}{t}\right) \ln \left(\frac{Yo}{yt}\right)$$

$$\ln Re/r_w = \left(\frac{1.1}{\ln H/r_w} + \frac{C}{L/r_w}\right)^{-1}$$

$$K = \frac{rc2 \ln (Re/r_w)}{22} \left(\frac{1}{t}\right) \ln \frac{(Yo)}{yt}$$

Source: astern, Inc.; Project No. 00-4061-02

TABLE A-2

INSITU PERMEABILITY CALCULATION
LANDFILL INVESTIGATION SLUG TEST RECOVERY DATA

Well No.	Date	Elapsed Time	Depth to Water Table (feet)	Yt = Measured Water Table Minus Equilibrium Water Level (feet)	Figure Number of Corresponding Yt vs. Time Plot
		(sec)			
CR-13A		0	7.75	Equilibrium	A-1
		10	9.00	1.15	
		45	8.50	0.75	
		75	8.45	0.70	
		144	8.25	0.50	
		210	8.18	0.43	
		300	8.18	0.43	
		(sec)			
LF-8	1/4/84	0	6.42	Equilibrium	A-2
		10	11.00	4.58	
		30	8.00	1.58	
		70	7.50	1.08	
		164	7.00	0.58	
		260	6.87	0.45	
		310	6.66	0.24	
		(sec)			
LF-11	1/4/84	0	4.10	Equilibrium	A-3
		10	11.96	7.86	
		38	9.25	5.15	
		54	500	0.09	
		65	4.66	0.56	
		(sec)			
LF-13		0	7.85	Equilibrium	A-4
		10	10.08	2.23	
		16	9.04	1.19	
		32	8.52	0.67	
		55	8.10	0.25	
		88	8.00	0.15	
		105	7.93	0.08	
		125	7.92	0.07	
		145	7.89	0.04	
		165	7.92	0.07	

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Table A-2 (Continued)

Well No.	Date	Elapsed Time	Depth to Water Table (feet)	Yt = Measured Water Table Minus Equilibrium Water Level (feet)	Figure Number of Corresponding Yt vs. Time Plot
		(min)			
CR-6	12/19/83	0	6.22	Equilibrium	A-5
		0.003	7.32	1.10	
		0.017	6.80	0.58	
		0.050	7.97	1.75	
		0.067	7.92	1.70	
		0.100	7.86	1.64	
		0.167	7.74	1.52	
		0.333	7.53	1.31	
		0.500	7.39	1.17	
		0.667	7.28	1.06	
		0.833	7.20	0.98	
		1.167	7.08	0.86	
		1.333	7.05	0.83	
		1.500	7.02	0.80	
		1.667	7.00	0.78	
		1.833	6.98	0.76	
		(sec)			
CR-9	12/20/83	0	6.00	Equilibrium	A-6
		0.16	7.11	1.61	
		1.0	8.26	2.26	
		2.0	8.27	2.27	
		3.0	8.27	2.27	
		4.0	8.27	2.27	
		5.0	8.17	2.17	
		6.0	8.17	2.17	
		7.0	8.17	2.17	
		8.0	8.19	2.19	
		9.0	8.27	2.27	
		10.0	8.30	2.30	
		15.0	8.27	2.27	
		20.0	8.14	2.14	
		25.0	8.01	2.01	
		30.0	7.93	1.93	
		35.0	7.88	1.88	
		40.0	7.84	1.84	
		45.0	7.81	1.81	
		50.0	7.79	1.79	
		55.0	7.77	1.77	
		60.0	7.75	1.75	

Table A-2 (Continued)

Well No.	Date	Elapsed Time	Depth to Water Table (feet)	Yt = Measured Water Table Minus Equilibrium Water Level (feet)	Figure Number of Corresponding Yt vs. Time Plot
		(min)			
CR-1	12/19/83	0	12.00	Equilibrium	A-7
		0.003	13.42	1.42	
		0.007	13.83	1.83	
		0.010	13.59	1.59	
		0.050	14.11	2.11	
		0.067	14.55	2.55	
		0.100	14.51	2.51	
		0.150	14.46	2.46	
		0.200	14.40	2.40	
		0.250	14.36	2.36	
		0.300	14.32	2.32	
		0.333	14.29	2.29	
		0.417	14.24	2.24	
		0.500	14.20	2.20	
		0.583	14.14	2.14	
		0.667	14.09	2.05	
		0.833	14.02	2.02	
		0.917	13.99	1.99	
		1.000	13.95	1.95	
		(sec)			
CR-4A	12/19/83	0	7.20	Equilibrium	A-8
		1	6.97	-0.23	
		10	7.50	-0.30	
		18	7.26	-0.06	
		20	7.23	-0.03	
		30	7.12	+0.08	
		35	7.08	+0.12	
		40	7.06	+0.14	
		(sec)			
CR-4B	12/19/83	0	7.00	Equilibrium	A-9
		6	16.00	9.00	
		17	14.00	7.00	
		23	13.00	6.00	
		29	12.00	5.00	
		38	11.00	4.00	
		48	10.00	3.00	
		64	9.00	2.00	
		89	8.00	1.00	
		118	7.50	0.51	
		143	7.25	0.25	
		300	7.09	0.09	

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Table A-2 (Continued)

Well No.	Date	Elapsed Time	Depth to Water Table (feet)	Yt = Measured Water Table Minus Equilibrium Water Level (feet)	Figure Number of Corresponding Yt vs. Time Plot
		(sec)			
CR-12A	12/20/83	0	10.43	Equilibrium	A-10
		0.16	10.97	0.54	
		1.0	10.92	0.49	
		2.0	11.97	1.54	
		3.0	11.87	1.44	
		4.0	11.77	1.34	
		5.0	11.68	1.25	
		10.0	11.37	0.94	
		15.0	11.20	0.77	
		20.0	11.09	0.66	
		25.0	11.03	0.60	
		30.0	11.00	0.57	
		35.0	10.98	0.55	
		40.0	10.96	0.53	
		45.0	10.96	0.53	
		50.0	10.95	0.52	
		55.0	10.94	0.51	
		60.0	10.94	0.51	
		(min)			
CR-12A	12/20/83	0	10.08	Equilibrium	A-11
		0.003	11.15	1.07	
		0.017	11.62	1.54	
		0.033	11.46	1.54	
		0.050	11.33	1.38	
		0.067	11.23	1.25	
		0.083	11.02	1.15	
		0.150	10.93	0.94	
		0.200	10.89	0.85	
		0.250	10.86	0.81	
		0.317	10.84	0.78	
		0.417	10.83	0.76	
		0.500	10.83	0.75	
		0.583	10.82	0.75	
		0.667	10.81	0.74	
		0.750	10.80	0.73	
		0.833	10.80	0.72	
		0.917	10.79	0.72	
		1.00	10.79	0.71	
		1.83	10.79	0.71	
		1.167	10.79	0.71	

Table A-2 (Continued)

Well No.	Date	Elapsed Time	Depth to Water Table (feet)	Yt = Measured Water Table Minus Equilibrium Water Level (feet)	Figure Number of Corresponding Yt vs. Time Plot
		(min)			
CR-3C	2/6/84	5	17.73	5.33	A-12
		10	16.94	4.54	
		15	16.43	4.03	
		20	15.97	3.57	
		25	15.50	3.10	
		30	15.02	2.62	
		35	14.66	2.26	
		(min)			
CR-4C	2/5/84	5	80.92 (plus Yt)	3.82	A-13
		10		3.23	
		15		2.71	
		20		2.08	
		25		1.63	
		30		1.10	
		35		0.54	

000126

000126

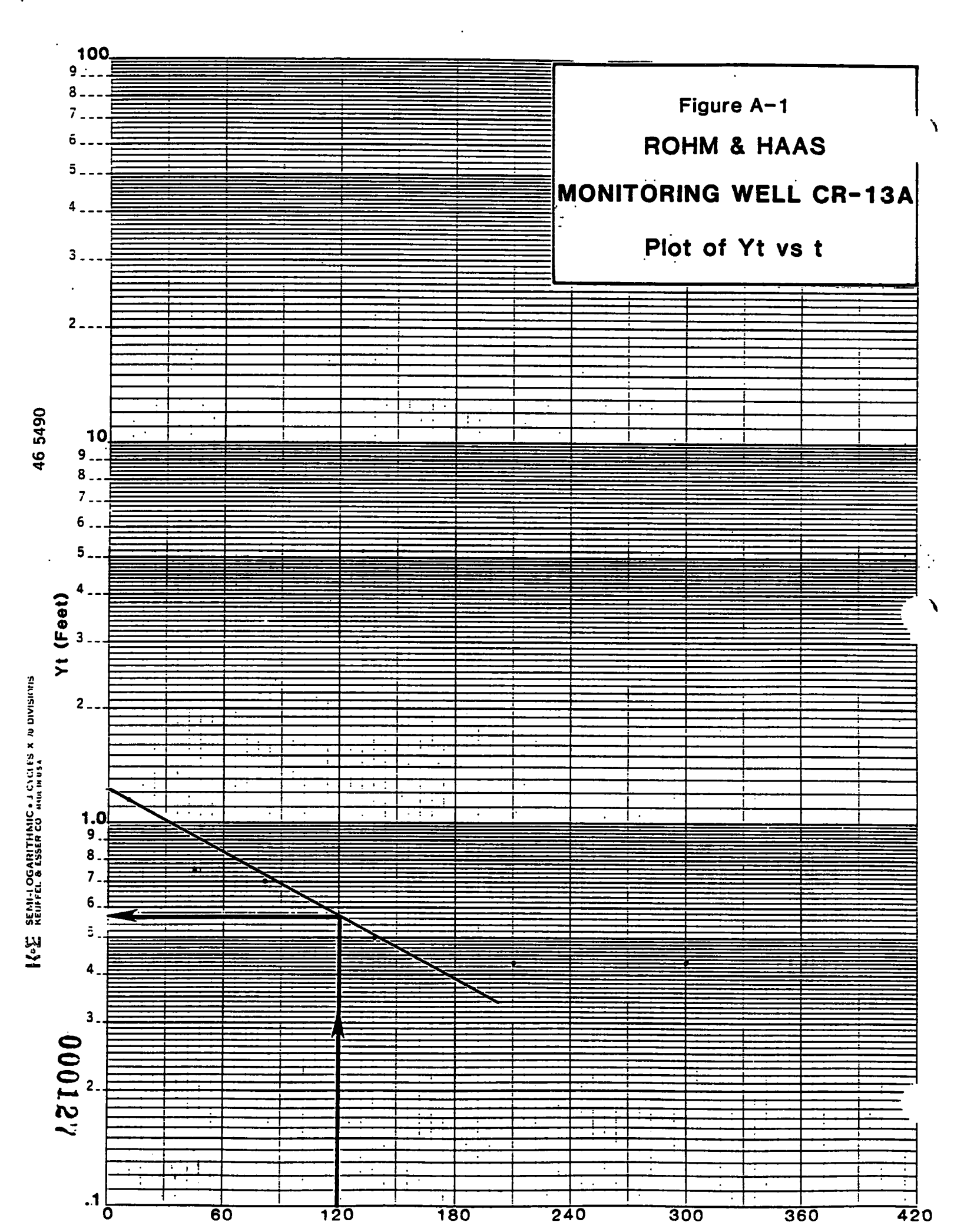
Figure A-1
ROHM & HAAS
MONITORING WELL CR-13A
Plot of Yt vs t
Yt (Feet)
100
9
8
7
6
5
4
3
2
10
9
8
7
6
5
4
3
2
1.0
9
8
7
6
5
4
3
2
.1
0
60
120
180
240
300
360
420
46 5490
SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO MADE IN USA
000127

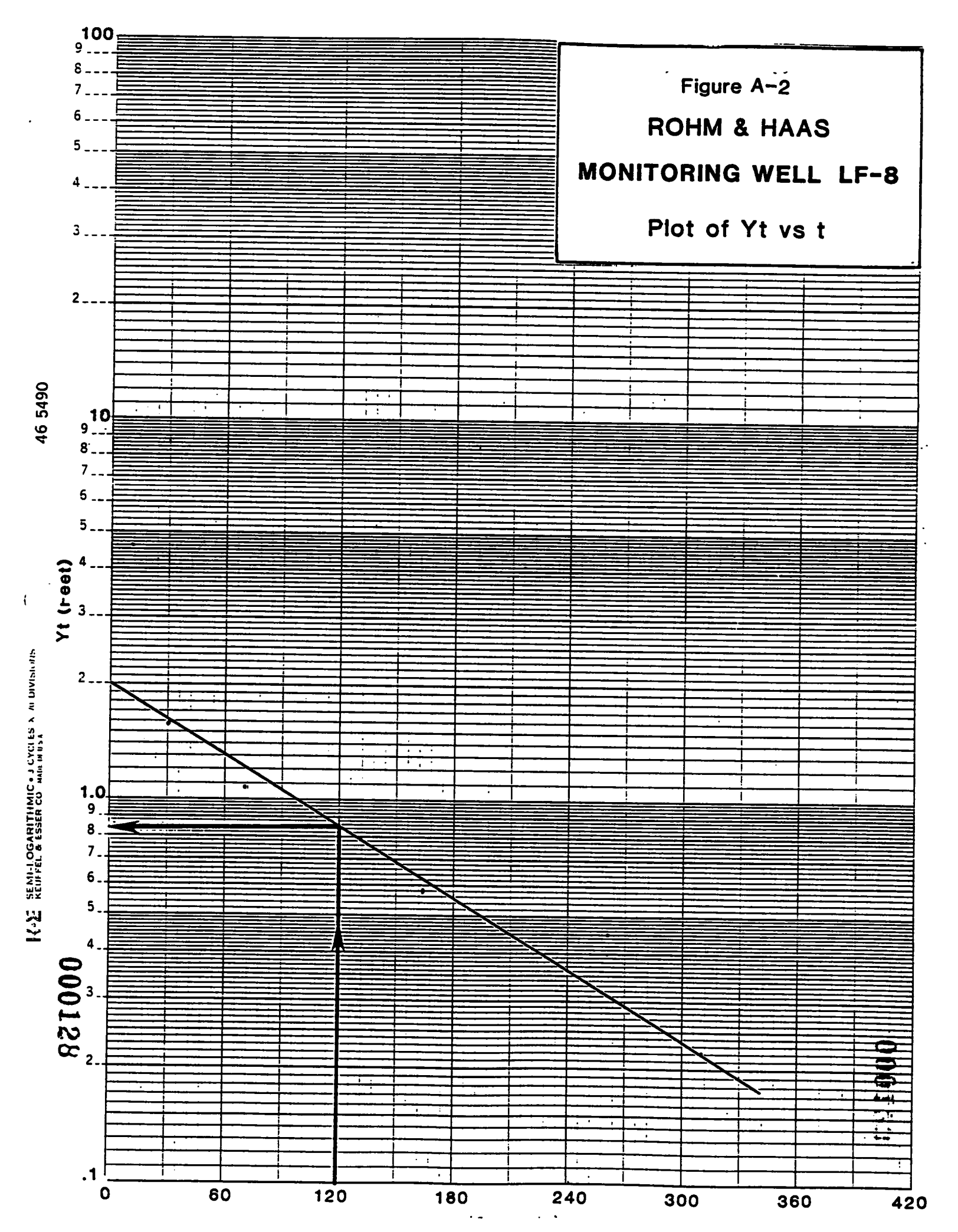
Figure A-2
ROHM & HAAS
MONITORING WELL LF-8
Plot of Yt vs t
Yt (feet)
100
10
1.0
.1
0
60
120
180
240
300
360
420
46 5490
SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO MADE IN U.S.A.

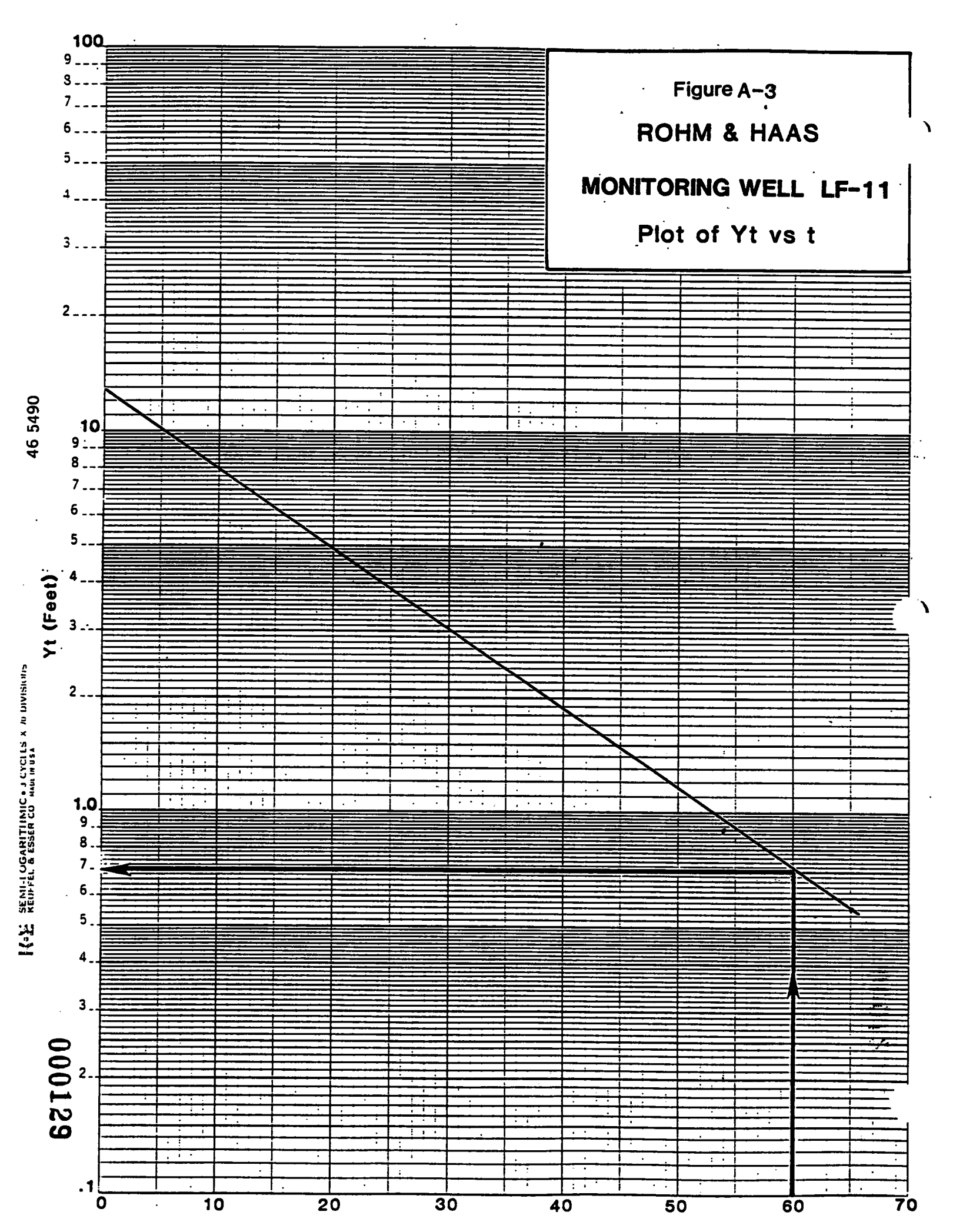
Figure A-3
ROHM & HAAS
MONITORING WELL LF-11
Plot of Yt vs t
Yt (Feet)
100
9
8
7
6
5
4
3
2
10
9
8
7
6
5
4
3
2
1.0
9
8
7
6
5
4
3
2
.1
0
10
20
30
40
50
60
70
46 5490
KEUFFEL & ESSER CO
000129

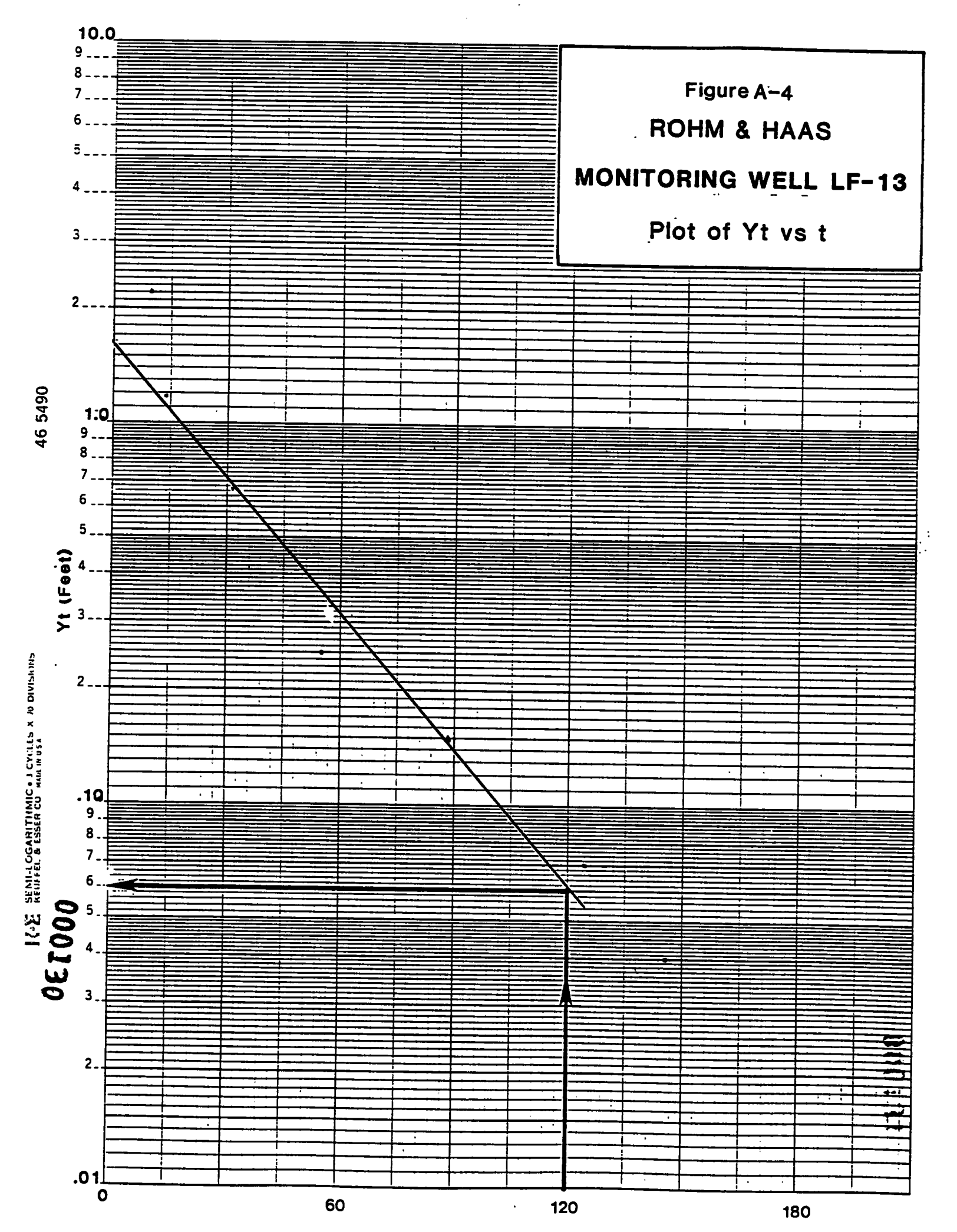
Figure A-4
ROHM & HAAS
MONITORING WELL LF-13
Plot of Yt vs t
Yt (Feet)
10.0
1.0
.10
.01
0
60
120
180
46 5490
SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO MADE IN U.S.A.

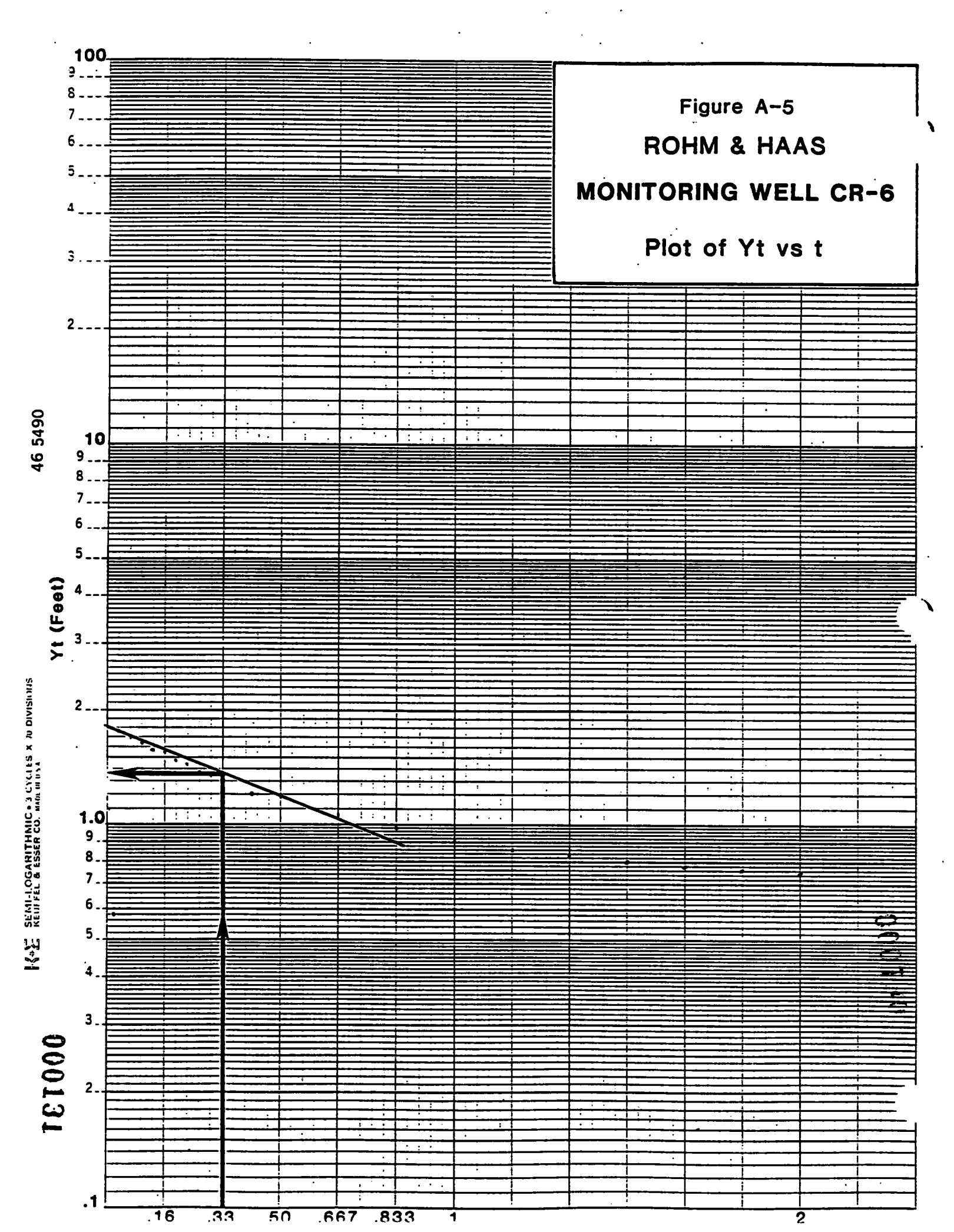
Figure A-5
ROHM & HAAS
MONITORING WELL CR-6
Plot of Yt vs t
Yt (Feet)
100
10
1.0
.1
.16
.33
.50
.667
.833
1
2
46 5490
SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO.
TC1000

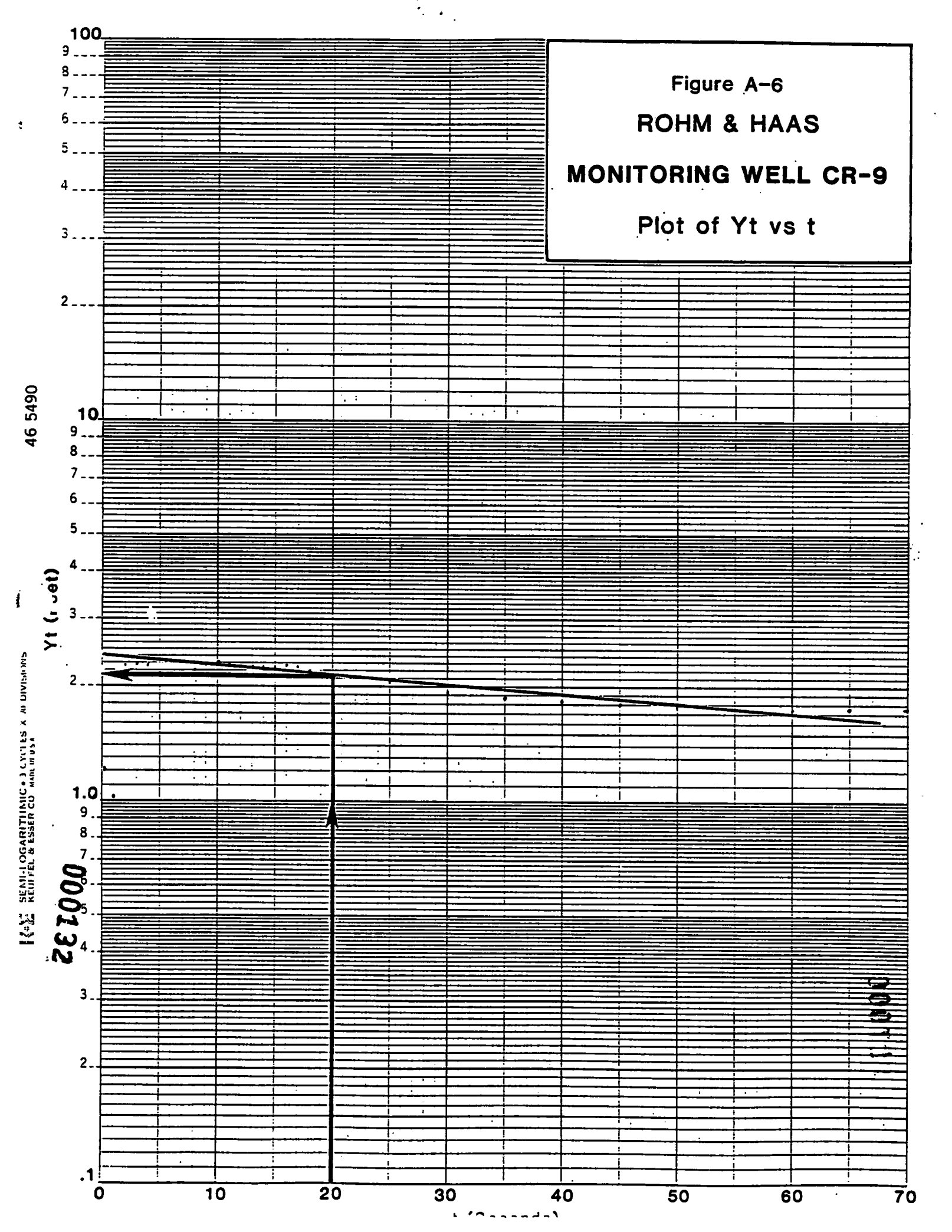
Figure A-6
ROHM & HAAS
MONITORING WELL CR-9
Plot of Yt vs t
Yt (r, et)
t (Seconds)
0
10
20
30
40
50
60
70
100
10
1.0
.1
46 5490
000132

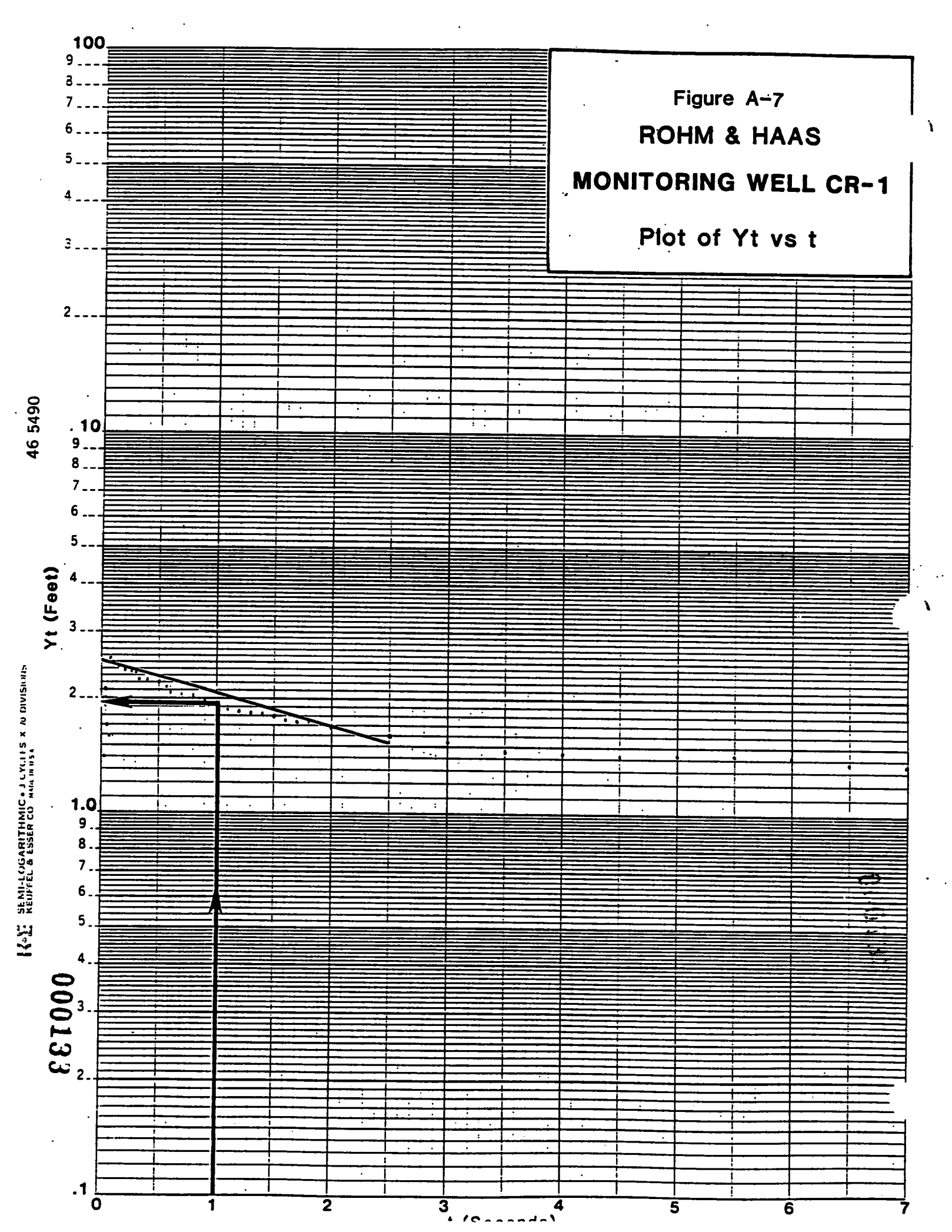
Figure A-7
ROHM & HAAS
MONITORING WELL CR-1
Plot of Yt vs t
Yt (Feet)
100
10
1.0
.1
0
1
2
3
4
5
6
7
46 5490
SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO MADE IN U.S.A.
000133

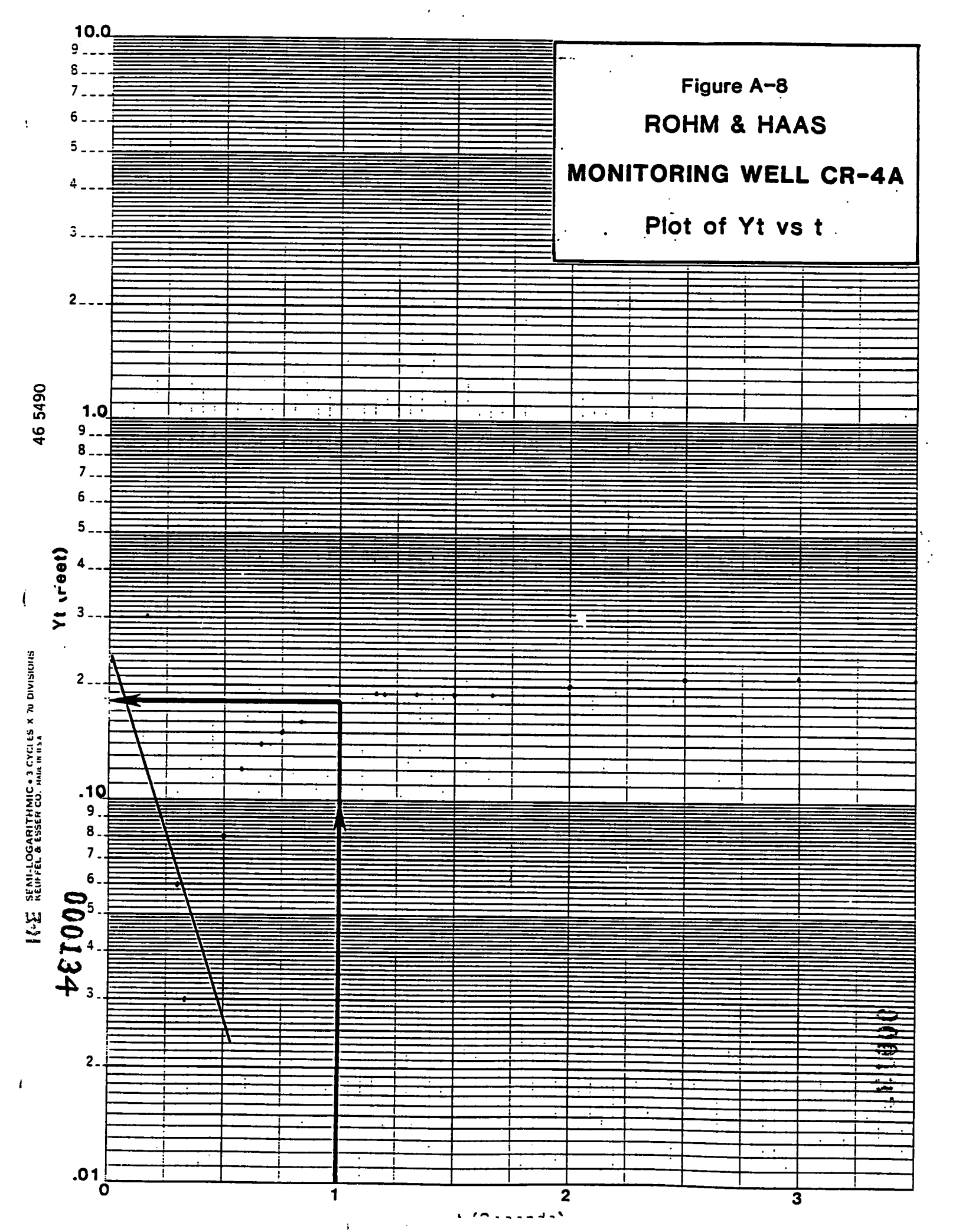
Figure A-8
ROHM & HAAS
MONITORING WELL CR-4A
Plot of Yt vs t
Yt (Feet)
10.0
1.0
.10
.01
0
1
2
3
46 5490
SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.
000134

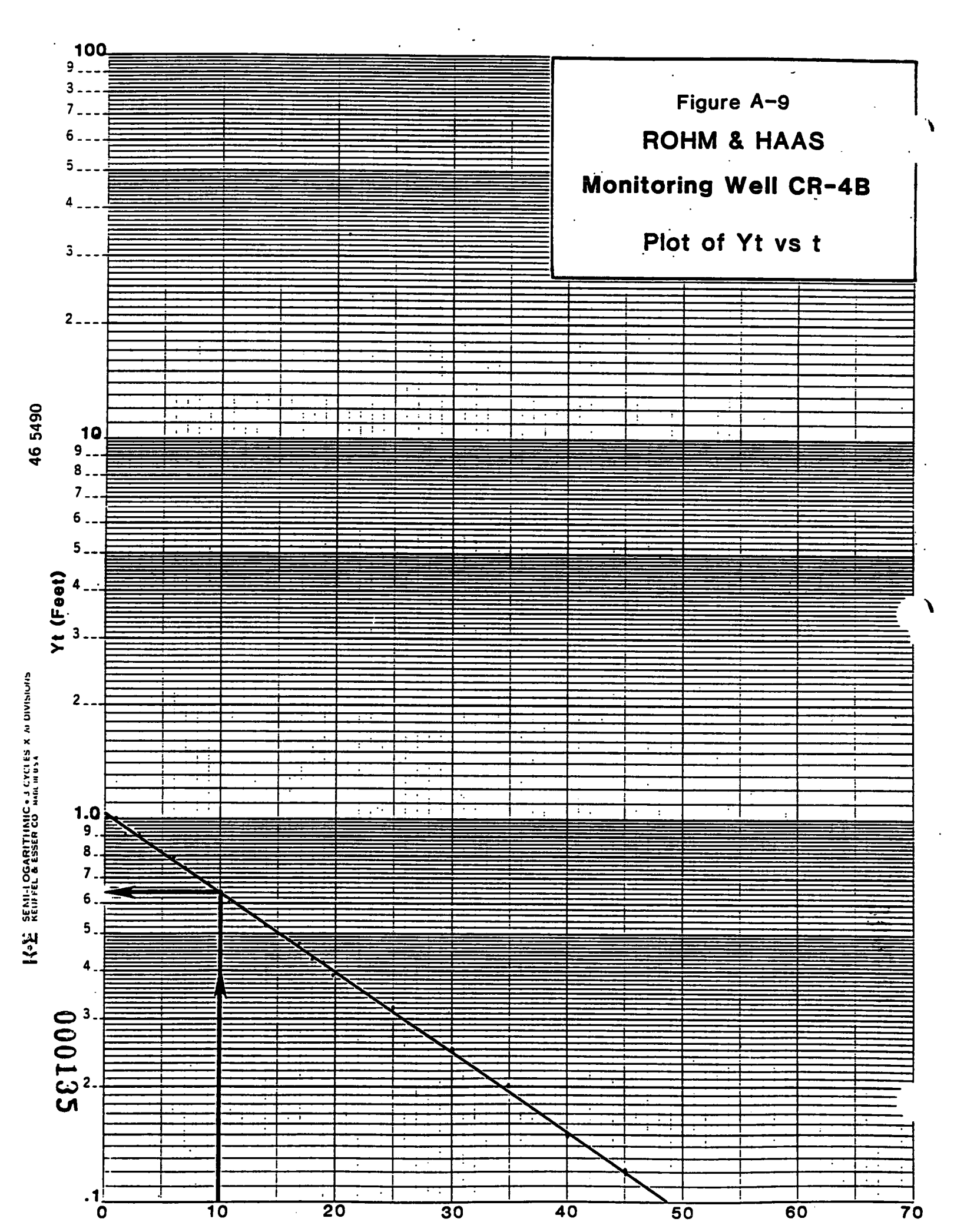
Figure A-9
ROHM & HAAS
Monitoring Well CR-4B
Plot of Yt vs t
Yt (Feet)
100
10
1.0
.1
0
10
20
30
40
50
60
70
46 5490
SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO
000135

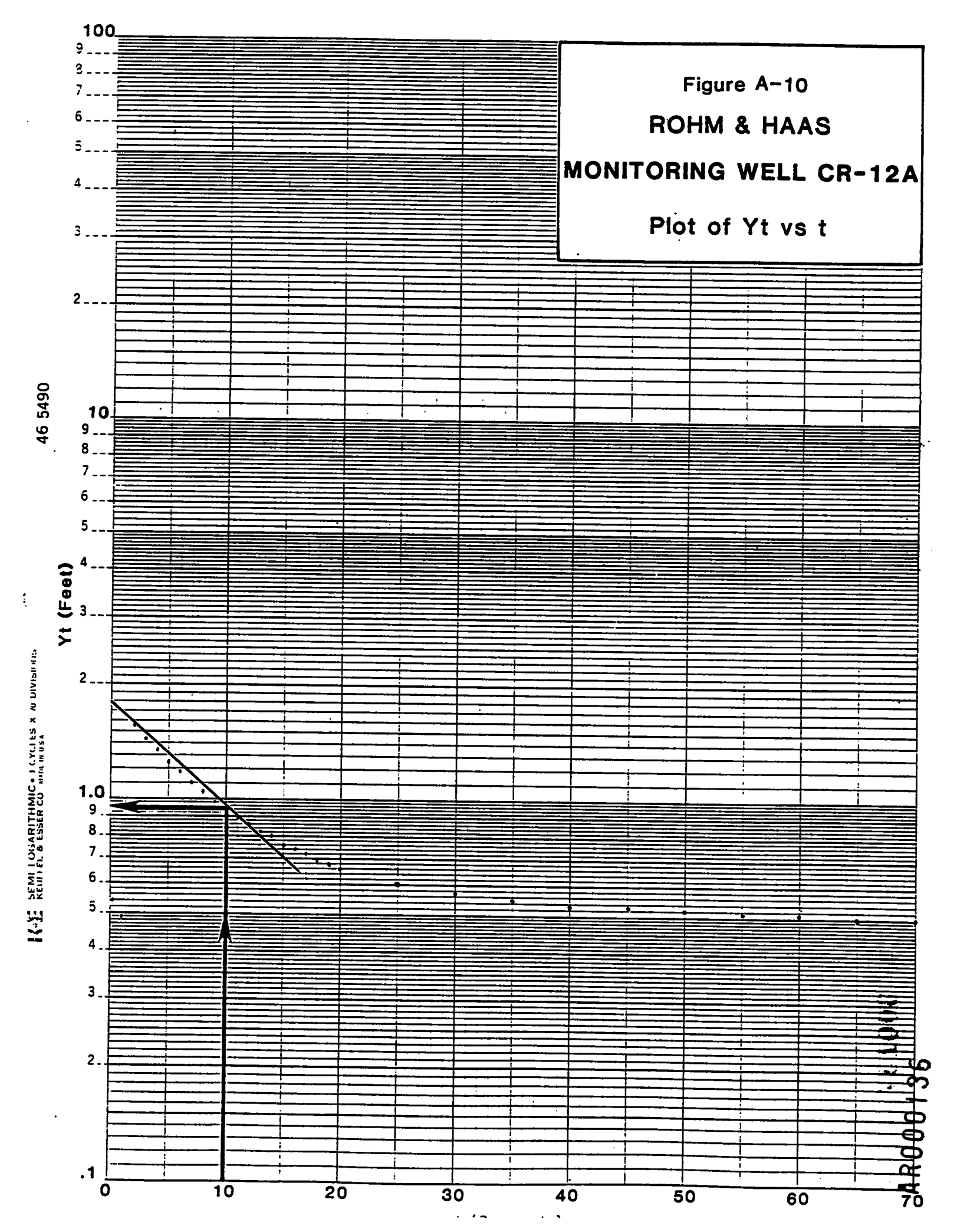
Figure A-10
ROHM & HAAS
MONITORING WELL CR-12A
Plot of Yt vs t
Yt (Feet)
100
10
1.0
.1
0
10
20
30
40
50
60
70
46 5490
SEMI LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.
AR000136

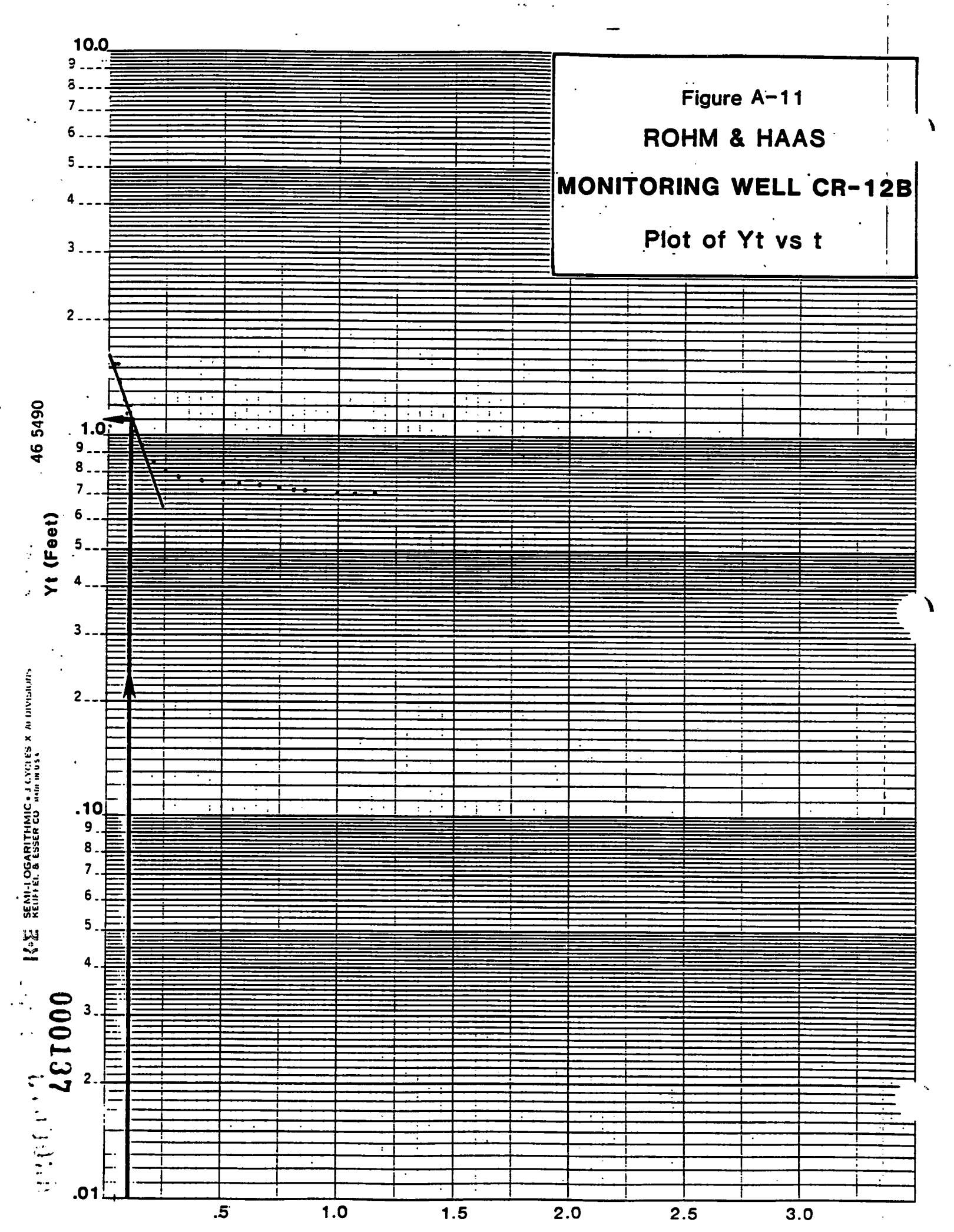
Figure A-11
ROHM & HAAS
MONITORING WELL CR-12B
Plot of Yt vs t
Yt (Feet)
10.0
9
8
7
6
5
4
3
2
1.0
9
8
7
6
5
4
3
2
.10
9
8
7
6
5
4
3
2
.01
.5
1.0
1.5
2.0
2.5
3.0
46 5490
KE SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.
000137

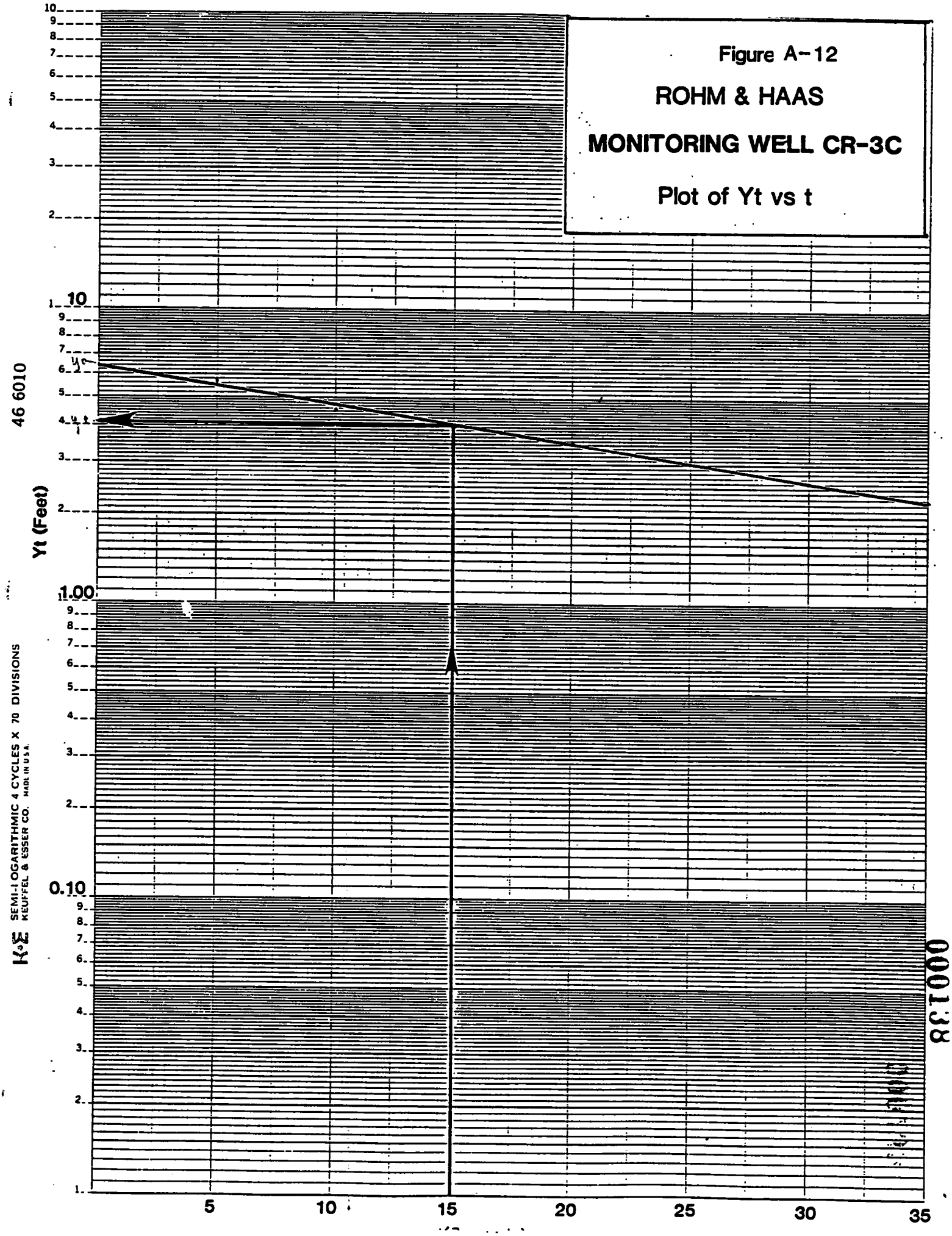
Figure A-12
ROHM & HAAS
MONITORING WELL CR-3C
Plot of Yt vs t
Yt (Feet)
10
1.00
0.10
5
10
15
20
25
30
35
46 6010
SEMI-LOGARITHMIC 4 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.
000138

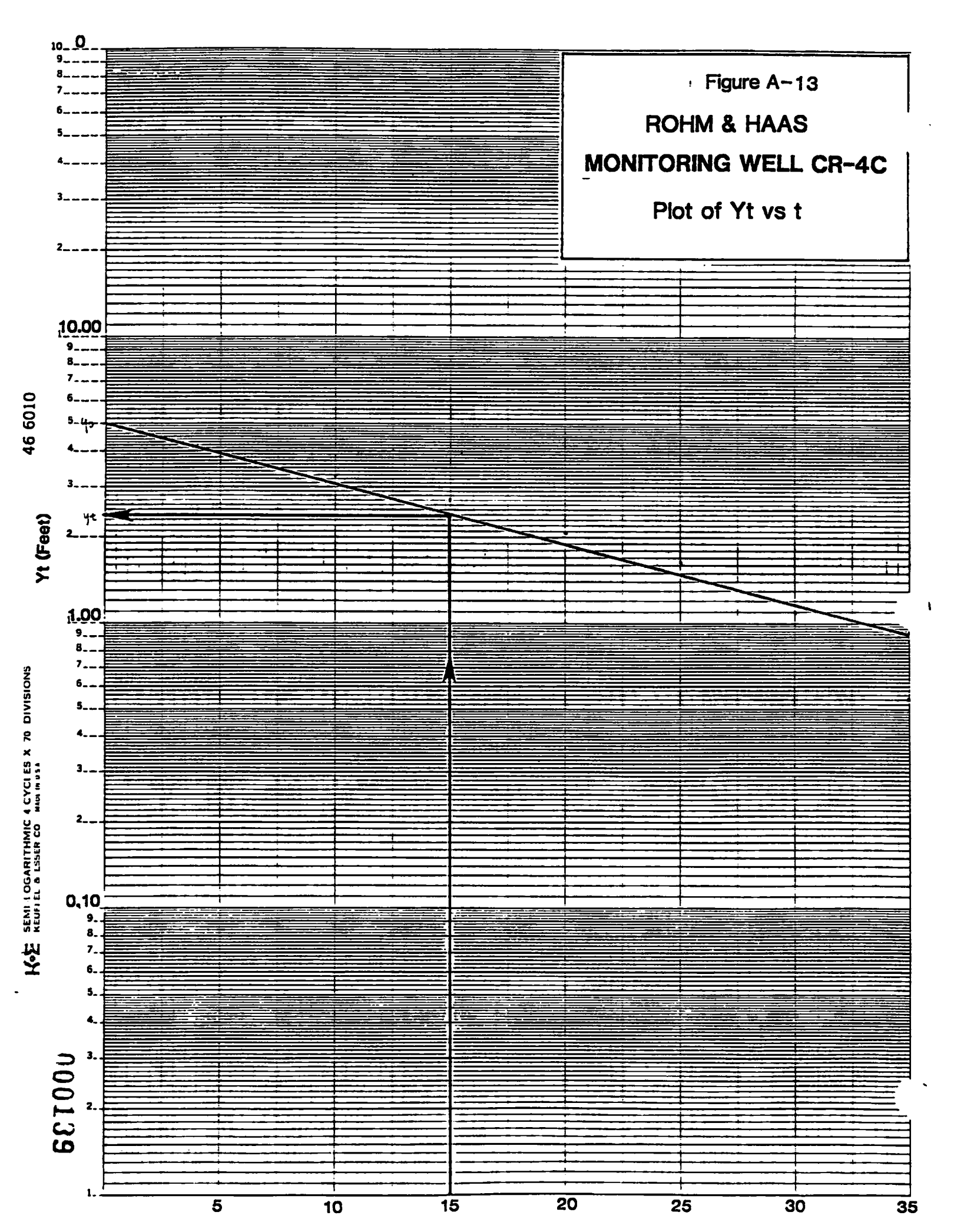
Figure A-13
ROHM & HAAS
MONITORING WELL CR-4C
Plot of Yt vs t
Yt (Feet)
10.00
1.00
0.10
5
10
15
20
25
30
35
46 6010
K•E SEMI LOGARITHMIC 4 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO MADE IN U.S.A.
000139

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APPENDIX B

ROHM AND HAAS, BRISTOL, PENNSYLVANIA
LANDFILL GROUNDWATER FLOW VELOCITY CALCULATIONS

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APPENDIX B

LANDFILL GROUNDWATER FLOW VELOCITY CALCULATIONS

The potential range in landfill area alluvial zone groundwater velocity (specific discharge) is calculated below. The calculations utilize the modified Darcy equation.

$$\text{groundwater velocity } \overline{V} = \frac{K\ i}{n}$$

where :

n = effective porosity = (unitless, assumed value is 0.35)
K = hydraulic conductivity (ft/day)
i = groundwater gradient (ft/ft)

K mean = 7.62 ft/day (mean from all overburden well tested - see Table A-1)
K max = 37.15 ft/day (Well CR-12A)
K min = 0.13 ft/day (Well CR-6)

i median = 0.021 (between i max and i min)
i max = 0.04 (indicated on Figure C-1)
i min = 0.002 (indicated on Figure C-1)

$$\overline{V}\ \text{max} = \frac{(K\ \text{mean})\ (i\ \text{median})}{n} = \frac{(7.62\ \text{ft/day})\ (0.021)}{0.35}$$

mean groundwater velocity ($\overline{V}$ mean) = 0.457 ft/day = 167 ft/year

$$\overline{V}\ \text{mean} = \frac{(K\ \text{max})\ (i\ \text{max})}{n} = \frac{(37.15\ \text{ft/day})\ (0.004)}{0.35}$$

maximum groundwater velocity ($\overline{V}$ max) = 4.25 ft/day = 1,550 ft/yr

$$\overline{V}\ \text{min} = \frac{(K\ \text{max})\ (i\ \text{max})}{n} = \frac{(0.13\ \text{ft/day})\ (0.002)}{0.35}$$

minimum groundwater velocity ($\overline{V}$ min) = 0.00074 ft/day = 0.27 ft/year

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APPENDIX C

CALCULATION OF ANNUAL GROUNDWATER DISCHARGE VOLUME

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APPENDIX C

CALCULATION OF ANNUAL GROUNDWATER DISCHARGE VOLUME

1.0 INTRODUCTION

Two independent methodologies were used to calculate the annual groundwater discharge volume from the landfill. This was done to maximize the reliability of the calculations by reducing bias or error inherent in any one methodology. The results from both methods are summarzied in Table C-1.

2.0 FLOW DURATION METHODOLOGY

The flow duration methodology utilizes stream flow records from the nearby surface water basins drained by Mill Creek and Common Creek. While these two drainage basins extend outside of the Coastal Plain, they are the closest gaged streams draining substantial areas of the Coastal Plain near the study area. Ninety per cent of the mean discharge (as expressed in cfs per square mile of basin) rate of both streams is assumed to be contributed by base flow (or groundwater discharge) and to be equivalent to the groundwater discharge rate from the Rohm and Haas landfill. This assumption is based upon a BCM hydrologic study of Coastal Plain watersheds in southern New Jersey and translate to a mean discharge rate of 0.31 cfs (0.61 cfs/mi^2) from the Rohm and Haas landfill.

3.0 FLOW DURATION CALCULATIONS

Mean flow rate (equaled or exceeded 40% of time (cfs/mi^2))

Common Creek 0.50
Mill Creek 0.85

Mean rate 0.675

Landfill groundwater discharge rate per square mile (90% of mean rate)
0.61 cfs/mi^2

Landfill discharge rate from the 0.56 mi^2 landfill area (see Figure C-1):

0.61 cfs/mi^2 x 0.56 mi^2 = 0.34 cfs

Total groundwater discharge must include the water seeping from the treated wastewater basins to the water table. This seepage has been calculated (in Appendix D) to equal 0.1 cfs

Total landfill discharge = 0.34 cfs + 0.10 cfs = 0.44 cfs

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4.0 FLOW NET ANALYSIS METHODOLOGY

Flow net analysis is a graphical solution of determining the groundwater discharge through a cross-sectional area of an aquifer. This methodology utilizes head change and the aquifer thickness and permeability as variables to calculate groundwater discharge volumes.

A flow net is composed of two families of lines or curves. One family of curves represents flow lines which depict the paths followed by particles of water as they flow in the direction of decreasing head. Intersecting the flow lines at right angles is a family curves, termed equipotential lines, which represent pieziometric-surface or water-table contours.

The landfill investigation flow net (Figure C-2) was constructed using the groundwater contour map (Figure 2-7) development from groundwater depth measurement groundwater taken on February 17, 1984, as the equipotential family of curves. The contour map was modified by removing mounding beneath the Rohm and Haas basins to simplify the analysis. Curves representing groundwater flow lines were added to the groundwater contour map to complete the flow net.

The groundwater discharge calculations contained in Table C-2 utilize the flow net to obtain the aquifer width (w), and hydraulic gradient (h/l) at each flow tube (interval between two flow lines). The bedrock contour map (Figure 2-6) is used to obtain the saturated aquifer thickness values (b) and the mean alluvial aquifer hydraulic conductivity (K) used in the calculations was calculated from the results of individual permeability tests presented in Table A-1. The landfill area along the Delaware River was excluded from the flow net analysis to minimize tidal interferences. The flow net analysis calculation indicates a groundwater discharge rate of 0.16 cfs. When seepage to the groundwater from the Rohm and Haas treated wastewater basins (0.10 cfs) is included, the total groundwater discharge rate is 0.26 cfs.

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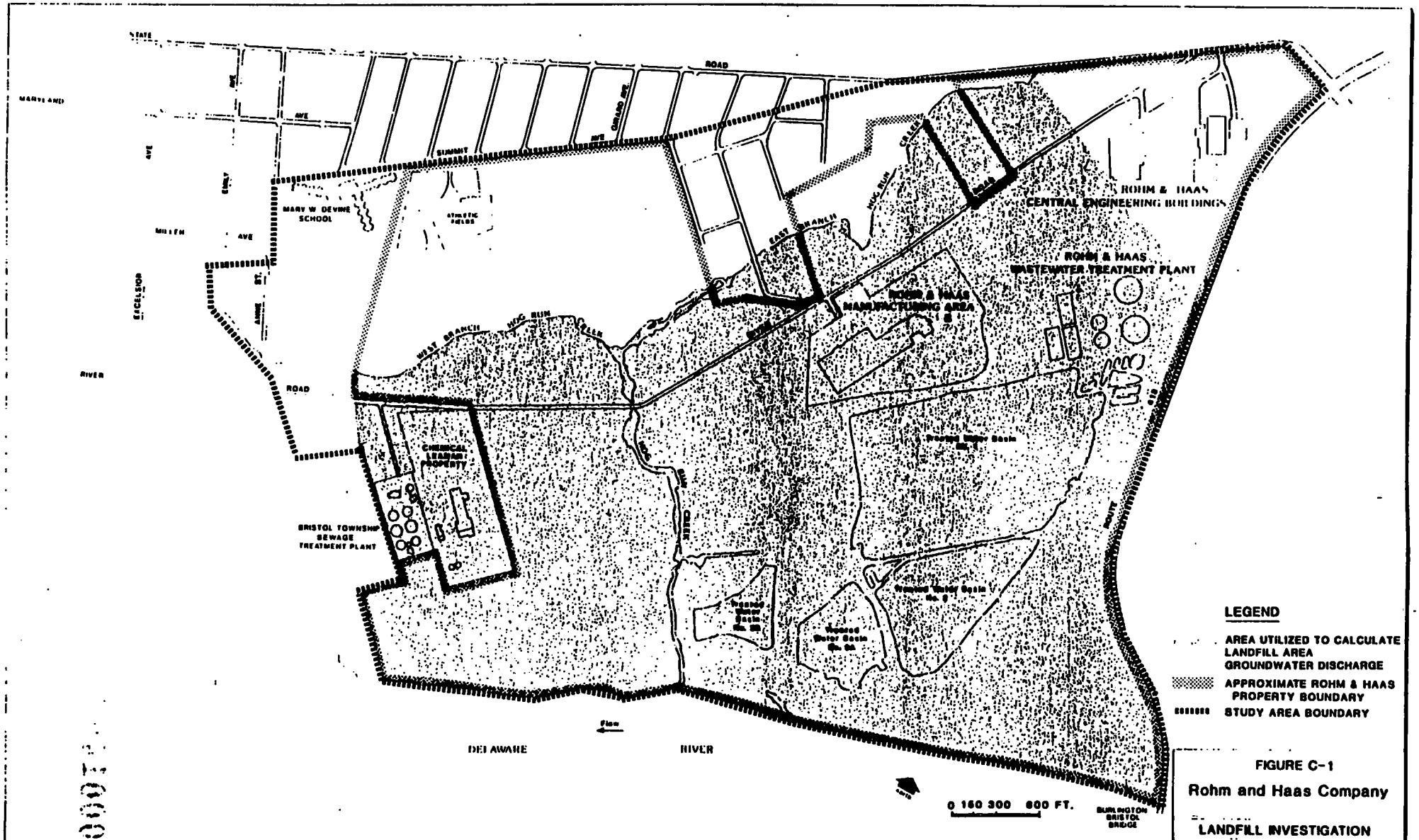

LEGEND

- AREA UTILIZED TO CALCULATE LANDFILL AREA GROUNDWATER DISCHARGE
- APPROXIMATE ROHM & HAAS PROPERTY BOUNDARY
- STUDY AREA BOUNDARY

FIGURE C-1

Rohm and Haas Company

LANDFILL INVESTIGATION

Flow Duration Groundwater Discharge Area

BCM PROJECT NO. 00-4061-02

APRIL 1994

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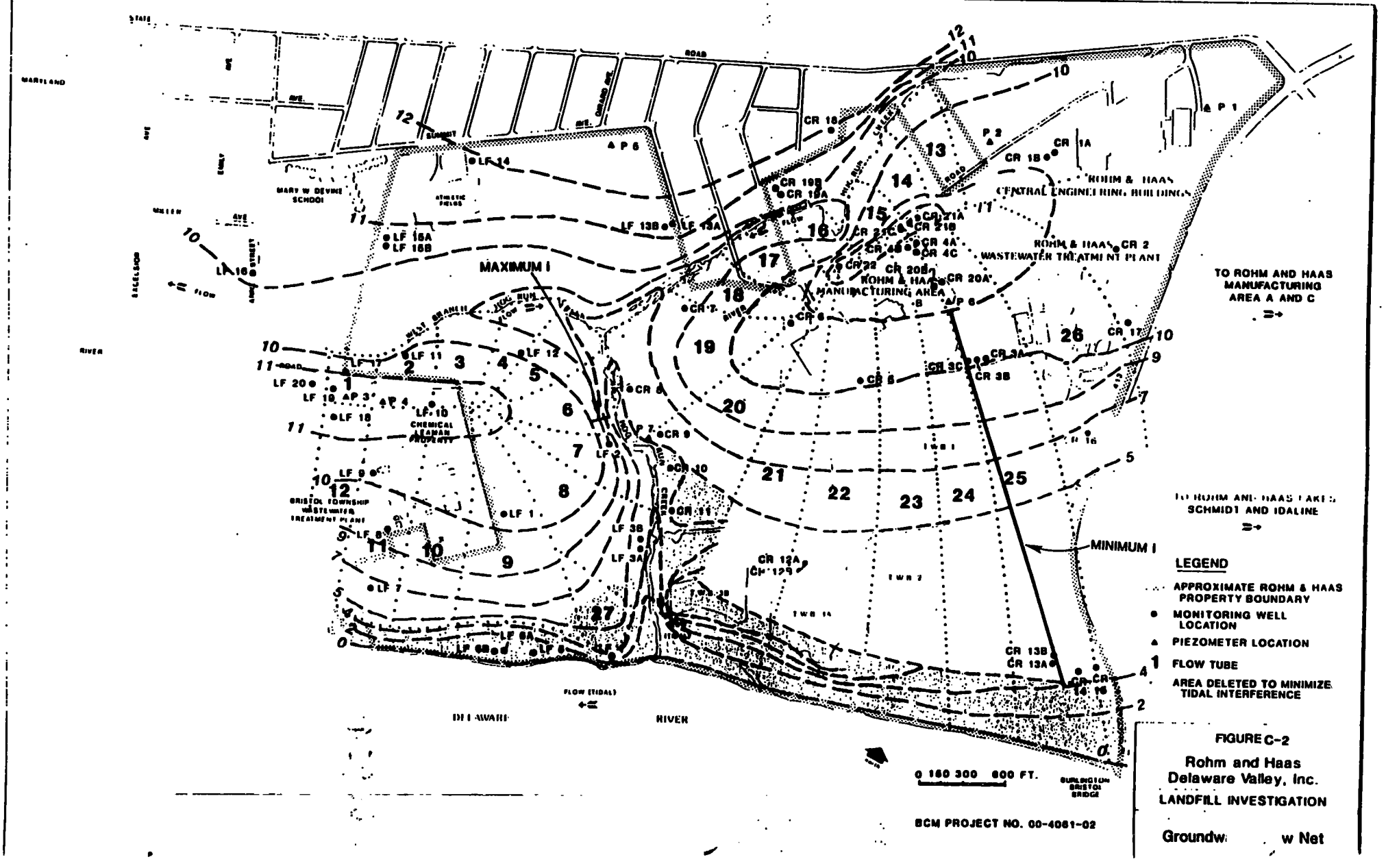

FIGURE C-2

Rohm and Haas
Delaware Valley, Inc.

LANDFILL INVESTIGATION

Groundw[illegible]w Net

BCM PROJECT NO. 00-4061-02

TABLE C-1

SUMMARY OF ANNUAL GROUNDWATER DISCHARGE VOLUME
CALCULATION RESULTS

Method	Discharge Rate			
	cfs	cfs/mi^2	gpd	Million Gallons/Year
Flow Duration[1]	0.34	0.61	220,320	80.4
Flow Duration *	0.44		285,120	104.1
Flow Net[2]	0.16	0.30	103,680	37.8
Flow Net *	0.26		168,480	61.5
Mean of Both Methods[3]	0.255	0.446	165,240	60.3
Mean of Both Methods *	0.355		230,040	84.0 **

* Includes seepages from Rohm and Haas treated wastewater basins 1, 2, 3a and 3b (0.10 cfs)
** Most probable rate

Notes:
1. Flow duration area equals 0.56 mi^2
2. Flow net area equals 0.49 mi^2
3. Landfill area is assumed to be 0.56 mi^2

Source: BCM Eastern, Inc.; Project No. 00-4061-02

TABLE C-2

LANDFILL FLOW NET ANALYSIS CALCULATIONS
(Corresponds to Figure C-2)

Flow Tube	h(ft)	l(ft)	w(ft)	b (ft)	Q tube (ft^3/day)
1	2	306	354	15	264.46
2	2	438	468	16	260.54
3	2.5	642	504	21	314.06
4	3.5	960	474	23	302.87
5	5.5	990	384	12	195.07
6	6.5	900	546	7	210.34
7	7	1,278	624	9	234.40
8	7.5	1,584	708	36	919.60
9	7.5	1,530	948	39	1,381.01
10	7.5	1,572	450	31	507.15
11	7.5	1,542	462	30	519.75
12	2.5	840	1,032	14	327.66
13	1.5	852	444	35	208.48
14	2	606	408	34	348.86
15	2.5	348	348	34	647.70
16	2.5	396	552	34	902.85
17	2.75	624	540	33	598.43
18	3	870	462	18	218.51
19	5.5	1,296	1,368	5	221.19
20	6.5	1,710	732	15	318.03
21	7	2,400	654	44	639.55
22	7.5	2,616	660	48	692.09
23	7.5	2,928	618	48	579.00
24	7.5	3,126	450	44	362.00
25	7.5	3,384	612	44	454.77
26	6.25	2,064	618	45	641.69
27	5	714	534	44	1,253.78
				TOTAL	13,524.34 Ft^3/day

$$Q_{tube} = \frac{Kbwh}{l}$$

K = average overburden hydraulic conductivity (7.62 ft/day)

h = change in water table elevation over length of flow tube (feet)

l = length of flow tube (ft)

w = width of downgradient cross section of flow tube (feet)

b = saturated aquifer thickness of the downgradient cross section of the flow tube (feet)

Q_{tube} = dischrge of the flow tube (ft^3/day)

Source: BCM Eastern, Inc.; Project No. 00-4061-02

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APPENDIX D

BASIN SEEPAGE LOSS CALCULATIONS

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APPENDIX D

BASIN SEEPAGE LOSS CALCULATIONS

1.0 INTRODUCTION

The seepage loss (recharge to the groundwater) from the unlined Rohm and Haas Treated Wastewater Basin Nos. 1, 2, 3a and 3b is calculated below. The calculations take into account seepage of water discharged to the basins from the Rohm and Haas industrial wastewater treatment plant and seepage of net rainfall.

2.0 BASIN LOSS OF TREATED WASTEWATER

The mean seepage loss of treated wastewater was calculated by determining the mean difference between basin inflow and outflow using 36 monthly readings obtained between December 1980 and November 1983. These readings were from a discharge gage at the Rohm and Haas wastewater treatment plant (which measures inflow to the basins) and from a gage at the discharge point at Treated Wastewater Basin 3b. The basins are in series from 1 through 3b. The calculations are:

Basin Loss of Treated Wastewater (Q_{tw}) equals the sum of monthly inflow rate minus outflow rate divided by the number of monthly measurements.

$$Q_{tw} = \text{loss of treated wastewater} = \frac{(\text{inflow} - \text{outflow})}{n}$$

$$Q_{tw} = \frac{536}{36} \text{ gpm} = 14.9 \text{ gpm} = 0.03 \text{ cfs}$$

3.0 BASIN LOSS OF NET PRECIPITATION

The mean seepage loss of net precipitation was calculated by comparing the mean annual rainfall to the annual lake evaporation rate:

Mean precipitation per year = 3.58 feet (Source: U.S.G.S Circular 104)

Annual lake evaporation - 2.75 feet (Source: Handbook of Applied Hydrology, Chow, 1964, p. 11-9)

Net precipitation = 3.58 feet - 2.75 feet = 0.83 feet

Basin area = 2.5×10^6 ft^2

Net Annual Precipitation = 0.83 ft x 2.5 x $106 ft^2$ = 2.1×10^6 $ft^3/year$

Net precipitation rate = 0.07 cfs

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4.0 TOTAL BASIN SEEPAGE RATE

Total Basin Seepage = Basin loss of treated wastewater plus basin loss of net precipitation.

Total Basin Seepage = 0.03 cfs + 0.07 cfs
= 0.10 cfs

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APPENDIX E

WELL DRILLING LOGS

Betz·Converse·Murdoch·Inc. BCM

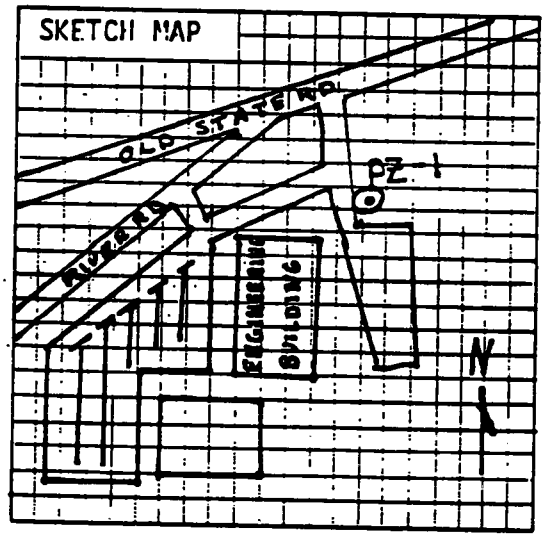
Drilling Log

Well Number P -1

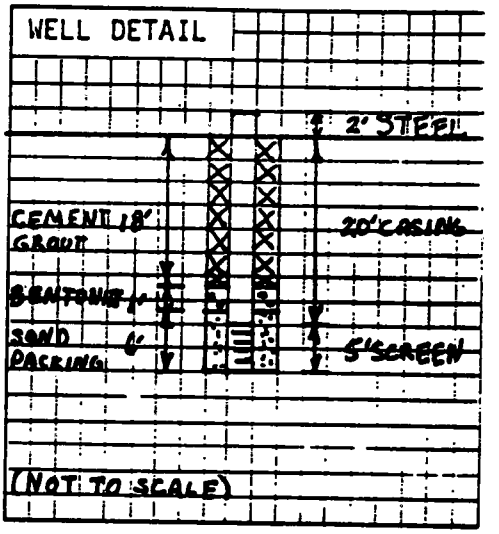
Client Rohm and Haas
Project No. 00-4061-02
Well Location Behind hedge, NE of Engineering building near River Road
Driller/Company Ken Kuterman/Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 4 3/4" Date(s) Drilled 12/14/83
Sample Type Cuttings Sample Interval Variable No. Samples Retained none
Surface Elevation 18.93' Casing Top Elevation 21.27'Steel Total Well Depth 25.0'
Casing Material and Size 2" ID Schedule 40 PVC Cased Interval(s) 0.0-20.0'
Grouting Type Portland Cement Grouted Interval 0.0-19.0'
Screening Material and Size 2" ID Sch 40 0.016" slotted PVC Screened Interval(s) 20.0-25.0'
Packing Material and Size Coarse silica sand Packed Interval 19.0-25.0'
Depth to Static Water 10.46'Steel Date 2/21/84 Approx Well Yield 10 gpm
Development Method Compressed Air Development Time 0.5 hr
Logged by: Paula A. Coppock

Comments Revert and Quik-gel used

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0.0-3.0'			Brown, silty, sandy CLAY
3.0-10.0'			Multicolored, fine-coarse grained GRAVEL in a brown, sandy, silty matrix
10.0-15.0'			Multicolored, fine-coarse grained GRAVEL with some cobbles in a sandy, silty matrix
15.0-20.0'			Multicolored, fine-coarse grained GRAVEL with layers of silty SAND and brown, micaceous CLAY
20.0-25.0'			Multicolored, fine-coarse grained GRAVEL in a brown sandy, silty matrix
25.0'			End of hole

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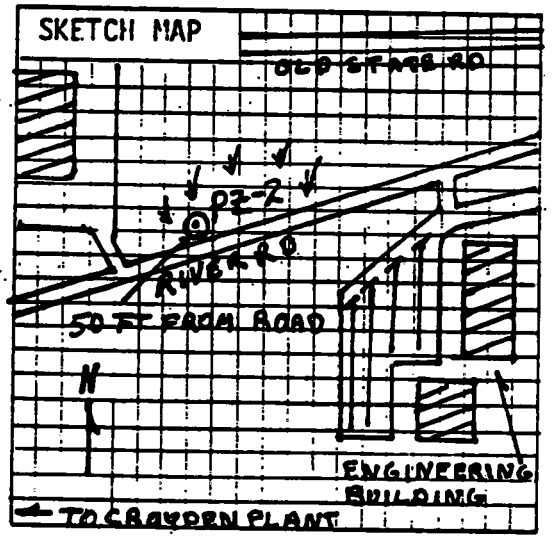
Drilling Log

Well Number P -2

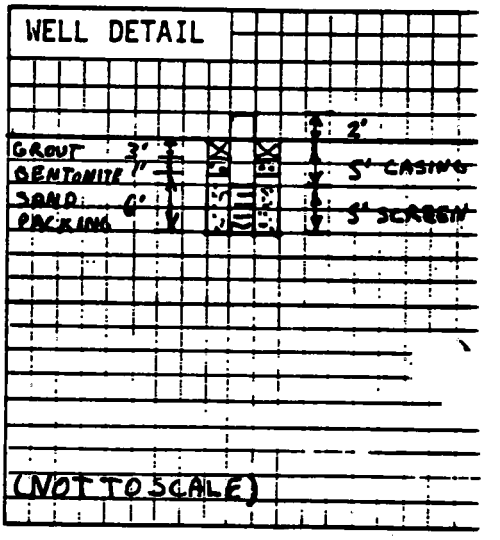
Client Rohm and Haas
Project No. 00-4061-02
Well Location In swamp east of Scorpio 30' north of River Road
Driller/Company Ken Kuterman/Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 4 3/4" Date(s) Drilled 12/14/83
Sample Type Cuttings Sample Interval Variable No. Samples Retained None
Surface Elevation 10.79' Casing Top Elevation 12.28' Steel Total Well Depth 10.0'
Casing Material and Size 2" ID Sch 40 PVC Cased Interval(s) 0.0-5.0'
Grouting Type Portland Cement Grouted Interval 0.0-4.0'
Screening Material and Size 2" ID Sch 40 0.016" slotted PVC Screened Interval(s) 5.0-10.0'
Packing Material and Size Coarse, silica sand Packed Interval 4.0-10.0'
Depth to Static Water 1.50' Steel Date 2/21/84 Approx Well Yield 20 gpm
Development Method Compressed Air Development Time 0.5 hr
Logged by: Paula A. Coppock

Comments

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0.0-1.0'			Brown, silty CLAY with organic debris
1.0-4.0'			Orange and white, silty CLAY
4.0-6.0'			Grey, silty CLAY
6.0-9.0'			Grey, fine-coarse, grained SAND and coarse grained GRAVEL
9.0-15.0'			Brown, silty CLAY
15.0'			End of hole

000154

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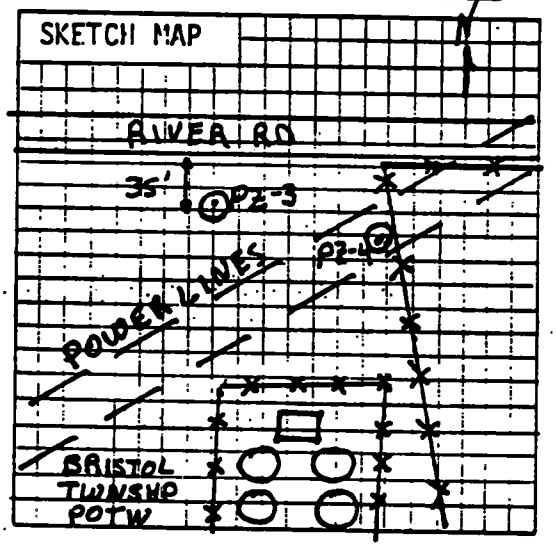
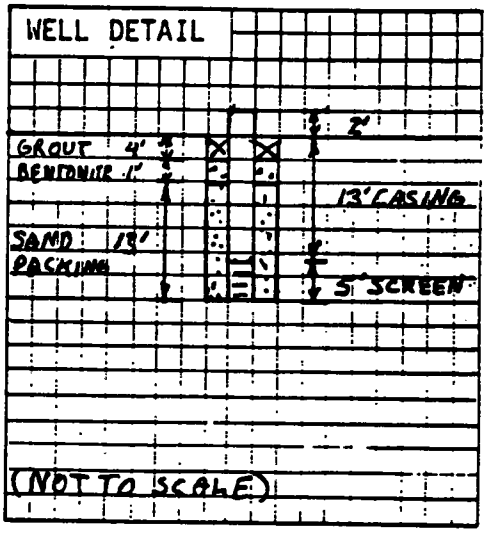
Drilling Log

Well Number P -3

Client Rohm and Haas
Project No. 00-4061-02
Well Location In northwest corner of Bristol Township POTW next to River Road
Driller/Company Ken Kuterman/Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 4 3/4" Date(s) Drilled 12/15/83
Sample Type Cuttings Sample Interval Variable No. Samples Retained None
Surface Elevation 14.36' Casing Top Elevation 16.58' Steel Total Well Depth 18.0'
Casing Material and Size 2" ID Schedule 40 PVC Cased Interval(s) 0.0-13.0'
Grouting Type Portland Cement Grouted Interval 0.0-5.0'
Screening Material and Size 2" ID Sch 40 .016" slotted PV Screened Interval(s) 13.0-18.0
Packing Material and Size Coarse silica sand Packed Interval 5.0-18.0'
Depth to Static Water 5.11' Steel Date 2/21/84 Approx Well Yield 5 gpm
Development Method Compressed Air Development Time 0.5 hr
Logged by: Richard E. Sacks and Paula A. Coppock

Comments





Depth Scale	Sample	Spoon Blows	Description of Materials
0.0-7.0'			Brown, gravelly, cobbly, silty SAND
7.0-9.0'			Brown, gravelly, cobbly, clayey, silty SAND
9.0-18.0			Brown, sandy, silty GRAVEL, thin clayey interbeds
18.0-19.0'			Orange, sandy, silty CLAY with fine gravel
19.0'			End of hole

000155

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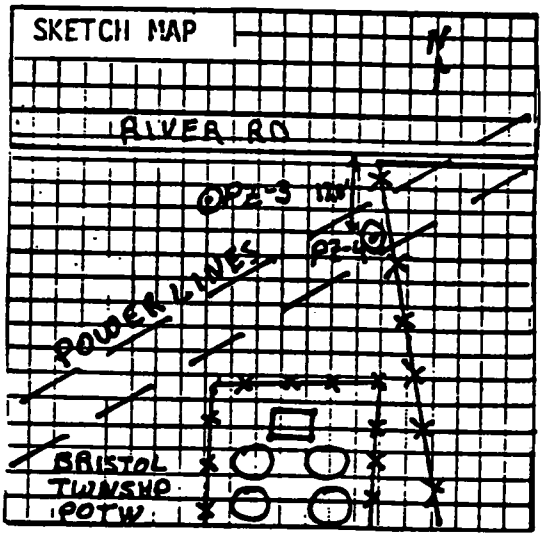
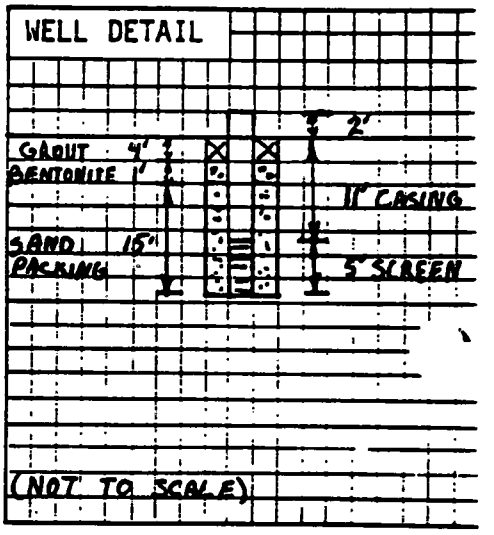
Drilling Log

Well Number P-4

Client Rohm and Haas
Well Location Northeast corner of Bristol Township POTW property between power lines
Driller/Company Ken Kuterman/Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 4 3/4" Date(s) Drilled 12/15/83
Sample Type Cuttings Sample Interval Variable No. Samples Retained None
Surface Elevation 15.97' Casing Top Elevation 17.55' Steel Total Well Depth 16.0'
Casing Material and Size 2" ID Schedule 40 PVC Cased Interval(s) 0.0-11.0'
Grouting Type Portland Cement Grouted Interval 0.0-5.0'
Screening Material and Size 2" ID Sch 40 0.016" slotted PVC Screened Interval(s) 11.0-16.0'
Packing Material and Size Coarse silica sand Packed Interval 5.0-20.0'
Depth to Static Water 4.00' Steel Date 2/21/84 Approx Well Yield 5 gpm
Development Method Compressed Air Development Time 0.5 hrs
Logged by: Paula A. Coppock

Comments





Depth Scale	Sample	Spoon Blows	Description of Materials
0.0-9.0'			Brown-black, sandy SILT with fine-medium grained, black gravel
9.0-16.0'			Brown, sandy, fine-coarse grained GRAVEL with orangy, silty clay interbeds
16.0-20.0'			Green, micaceous CLAY, orange, silty CLAY, bronze CLAY with multicolored, fine-coarse grained gravel
20.0'			End of hole

0001556

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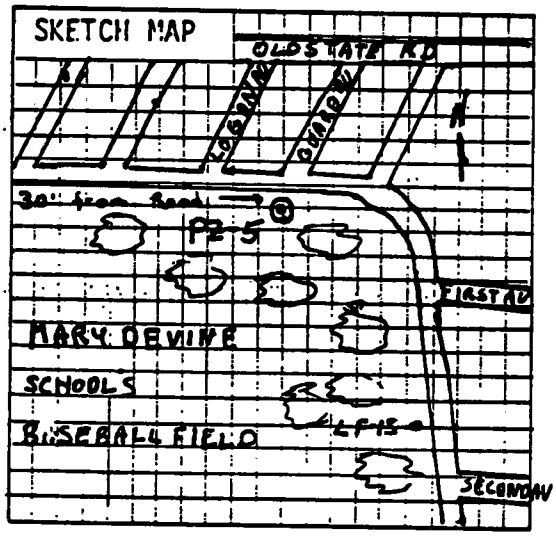
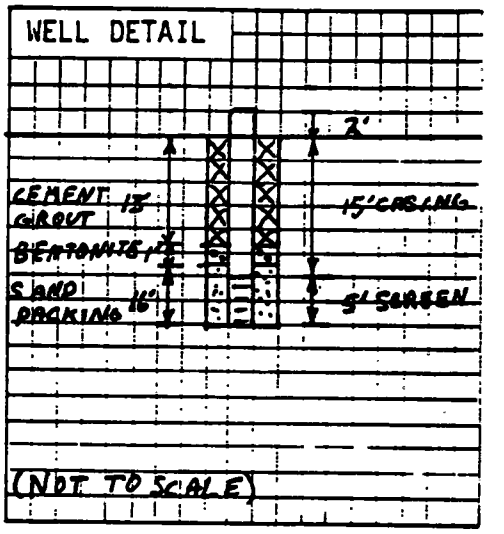
Drilling Log

Well Number P-5

Client Rohm and Haas
Project No. 00-4061-02
Well Location Guard and Summit Roads in Croyden residential area, east of Mary Divine Pu
Driller/Company Ken Kuterman/Engineering Drilling Company Schoo
Drilling Method Mud Rotary Hole Diameter 4 3/4" Date(s) Drilled 12/14/83
Sample Type Cuttings Sample Interval Variable No. Samples Retained None
Surface Elevation 28.04' Casing Top Elevation 30.26' Steel Total Well Depth 20.0'
Casing Material and Size 2" ID Sch 40 PVC Cased Interval(s) 0.0-15.0'
Grouting Type Portland Cement Grouted Interval 0.0-14.0'
Screening Material and Size 2" ID Sch 40 .016" slotted PVC Screened Interval(s) 15.0-20.0'
Packing Material and Size Coarse silica sand Packed Interval 14.0-20.0'
Depth to Static Water 17.84' Steel Date 2/21/84 Approx Well Yield 10 gpm
Development Method Compressed Air Development Time 0.5 hr
Logged by: Paula A. Coppock

Comments





Depth Scale	Sample	Spoon Blows	Description of Materials
0.0-10.0'			Brownish red, clayey, sandy SILT with fine grained GRAVEL
10.0-20.0			Brownish red, clayey sandy SILT with fine-coarse grained
			GRAVEL and occasional cobbles
20.0'			End of hole

000157

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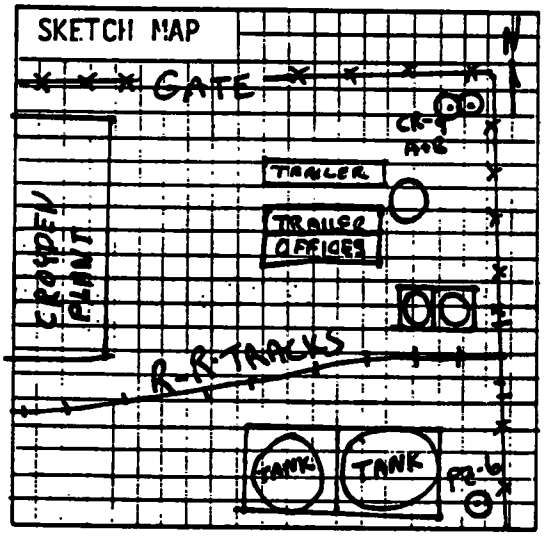
Drilling Log

Well Number P -6

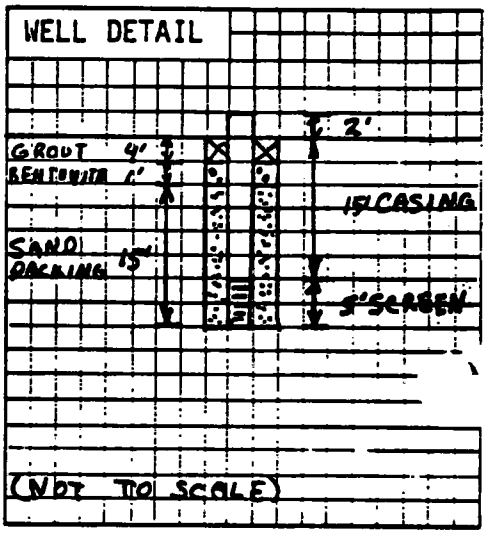
Client Rohm and Haas
Project No. 00-4061-02
Well Location East of Croyden plant inside fence, next to entrance of railroad tracks
Driller/Company Ken Kuterman /Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 4 3/4" Date(s) Drilled 12/15/83
Sample Type Cuttings Sample Interval Variable No. Samples Retained None
Surface Elevation 19.97' Casing Top Elevation 21.92' Steel Total Well Depth 20.0'
Casing Material and Size 2" ID Sch 40 PVC Cased Interval(s) 0.0-15.0'
Grouting Type Portland Cement Grouted Interval 0.0-5.0'
Screening Material and Size 2" ID Sch 40 .016" slotted PVC Screened Interval(s) 15.0-20.0'
Packing Material and Size Coarse silica sand Packed Interval 5.0-20.0'
Depth to Static Water 10.82' Steel Date 2/21/84 Approx Well Yield 5 gpm
Development Method Compressed Air Development Time 0.5 hr
Logged by: Paula A. Coppock

Comments Used revert and Quik-gel

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0 .0'-3.0'			Brown, silty, sandy CLAY with multicolored fine-coarse grained GRAVEL and some cobbles
3.0'-11.0'			Multicolored, fine coarse grained GRAVEL and 3" COBBLES with brown, sandy and silty
11.0'-15.0'			Multicolored, fine-coarse grained GRAVEL and 5" COBBLES with brown sandy silt and silty clay
15.0'-17.5'			Brown, silty SAND with some fine-coarse grained GRAVEL
17.5'-19.0'			Black, fine grained GRAVEL to a coarse grained SAND with multicolored, fine-medium grained GRAVEL
19.0'-22.0'			Multicolored, coarse grained GRAVEL with some cobbles, coarse, black-brown sand and orange clay
22.0'			End of Hole

000158

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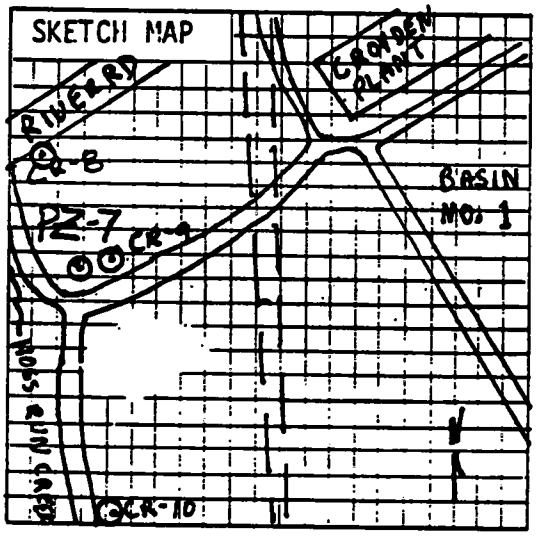
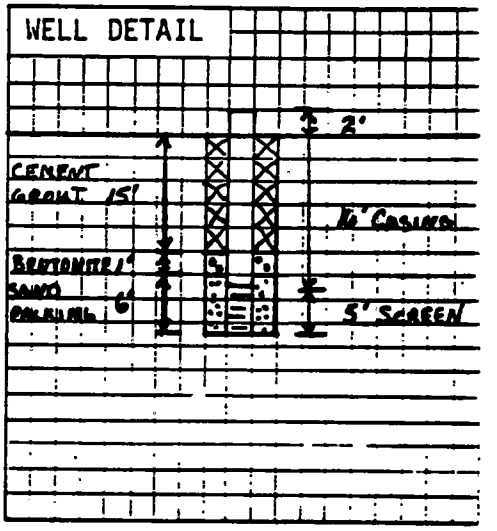
Drilling Log

Well Number P -7

Client Rohm and Haas
Project No. 00-4061-02
Well Location Landfill next to CR-9, southwest of Croyden Plant, west of power lines
Driller/Company Ken Kuterma/Engineering Drilling Co. - east of Hogsrun Creek
Drilling Method Mud Rotary Hole Diameter 4 3/4" Date(s) Drilled 12/13/83
Sample Type Cuttings Sample Interval variable No. Samples Retained none
Surface Elevation 11.14' Casing Top Elevation 13.55' Steel Total Well Depth 21.0'
Casing Material and Size 2" ID SCH 40 PVC Cased Interval(s) 0.0' - 1
Grouting Type Portland Cement Grouted Interval 0.0' - 1
Screening Material and Size ID SCH 40 .012" SLOTTED PVC Screened Interval(s) 16.0' - 2
Packing Material and Size Coarse silica sand Packed Interval 15.0' - 2
Depth to Static Water 6.33' Steel Date 2/21/84 Approx Well Yield 2 gpm
Development Method Compressed Air Development Time 0.5 hr.
Logged by: RICHARD E. SACKS

Comments





Depth Scale	Sample	Spoon Blows	Description of Materials
0.0'-8.0'			Brown, silty, fine-medium grained GRAVEL - gravelly SILT, some cobbles
8.0'-12.0'			Brown, silty, fine-course grained GRAVEL, some cobbles, (white rubbery material @ 8.0')
12.0'-15.0'			Brown, silty, clayey GRAVEL. Clay is micaceous (bordering on gravelly-clay)
15.0'-20.0'			Brown, silty, micaceous CLAY
20.0'-21.0'			Brown, clayey GRAVEL & cobbles
21.0'-30.0'			White-gray, micaceous CLAY
30.0'			END OF HOLE

000159

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Drilling Log

Well Number CR-1A - Abandoned Hole

Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location Along railroad tracks, southwest of Engineering Bldg.
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary — Hole Diameter 7 3/8" — Date(s) Drilled 1/18/84 & 1/20/
Sample Type Split spoon — Sample Interval 5' — No. Samples Retained 12 / 1/24/
Surface Elevation ----- — Casing Top Elevation -------- — Total Well Depth ----
Casing Material and Size -------- — Cased Interval(s) ----
Grouting Type Portland Cement — Grouted Interval ----
Screening Material and Size -------- — Screened Interval(s) ----
Packing Material and Size Coarse grained, silica sand — Packed Interval ----
Depth to Static Water -------- — Date --------- — Approx Well Yield -----
Development Method Compressed air — Development Time -----
Logged by: Paula A. Coppock

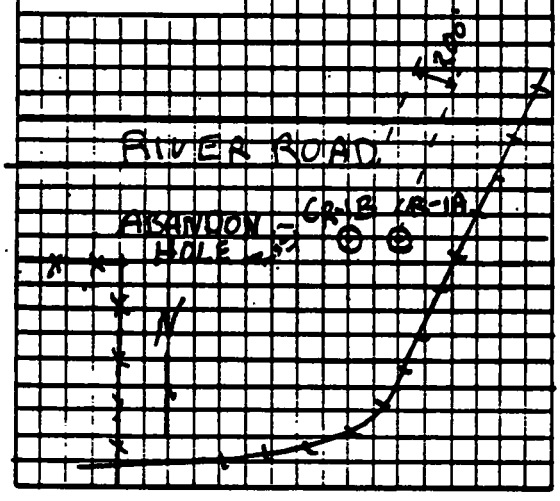
Comments
thick drilling mud

300 lb. hammer
2-3' spoon

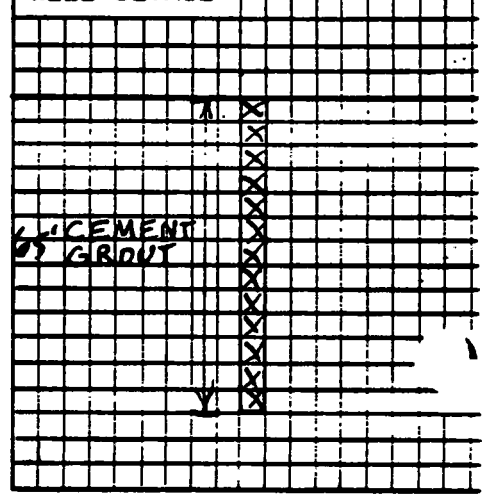
had to abandon hole because of collapse caused by snow delays

filled in by pressure grouting

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-3'			Brown, sandy SILT
	5-7'		
3-13.5'	10-12'		Tan-brown- grey silty, SAND some fine-medium gravel
13.5-22'	15-17'		Brown, sandy, clay, SILT, some fine-medium grained gravel
	20-22'		
22-22.5'			Brown-orange SILT, some fine-coarse gravel cobble @ 22.5'
22.5-23'			COBBLE (sandstone)
23-24'			Brown, gravelly, sandy, SILT
24-27"	25-27'	22,27,33,32	Green-brown, silty, fine-coarse grained SAND and fine-coarse grained GRAVEL
27-33'	30-32'	34,24,27,21	Tan-rust, silty, fine-medium grained SAND
33-38'	35-37	9,14,19,13	Tan-rust, fine-coarse grained SAND, traces of cobbles

DRILLING LOG
Well CR-1A

Depth Scale	Sample	Spoon Blows	Description of Materials
38-44.5'	40-42'	11,9,13,17	White, fine-medium grained, well sorted SAND
44.5-46'	45-47'	6,11,16,21	Tan-grey, sandy CLAY
46-57.5'	50-52'	5,6,9,10	Tan-rust, fine-medium grained SAND, trace of rounded grave.
	55-57'	8,6, 8,9	Thin beds of clay
57.5'-65'	60-62'	6,11,12,9	Reddish-brown, sandy,silty CLAY, with occaisional fine-
			medium grained sandy interbeds, little light brown-
			yellow CLAY with coarse biotite grains
65'			END HOLE

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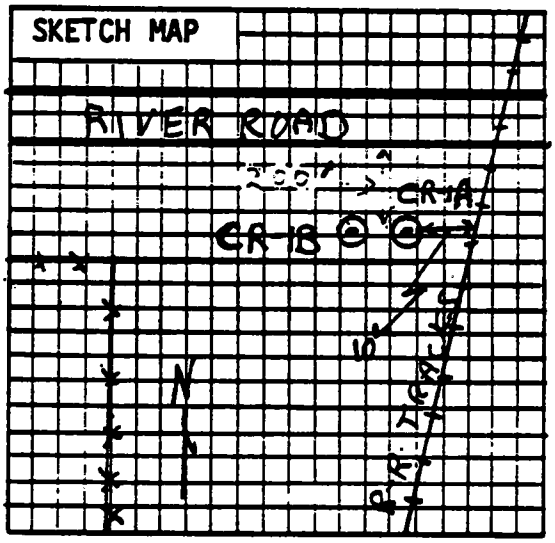
Drilling Log

Well Number CR-1A

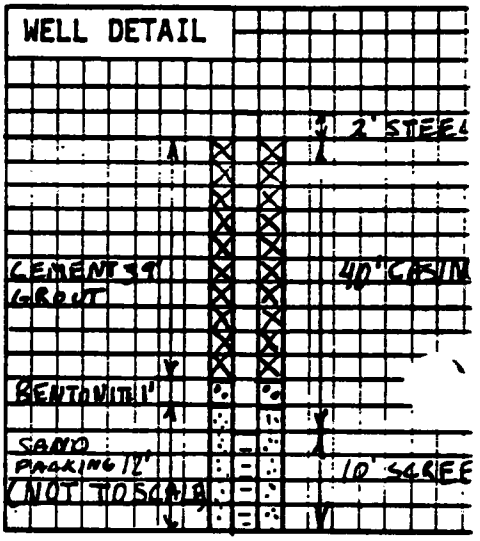
Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location Along railroad tracks, southwest of Engineering Bldg.
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary — Hole Diameter 7 3/8" — Date(s) Drilled 1/26/84
Sample Type Split spoon — Sample Interval 5' — No. Samples Retained 3
Surface Elevation 21.18'SL — Casing Top Elevation 23.10'Steel — Total Well Depth 50'
Casing Material and Size Schedule 40 PVC 4"ID — Cased Interval(s) 0-40'
Grouting Type Portland Cement — Grouted Interval 0-38'
Screening Material and Size Sch 40 4"ID 0.016"slotted PVC — Screened Interval(s) 40-50'
Packing Material and Size Coarse grained, silica sand — Packed Interval 38-50'
Depth to Static Water 12.19' Steel — Date 2/17/84 — Approx Well Yield 15 gpm
Development Method Compressed Air — Development Time 1 hr.
Logged by: Paula A. Coppock

Comments
thick drilling mud
300 lb. hammer
2-3" spoon
blow counts every 6"
weathered schist @ 68'

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-18'			Brown, sandy SILT and fine-coarse grained gravel sand, silt and clay layers interbedded with gravel
18-23'			Brown, sandy SILT, trace of gravel, a little green, red clay
23-50'			Brown, sandy SILT and fine-coarse gravel, some cobbles, occasional beds of brown sandy silt that are free of gravel
50-64'			White sandy, silty CLAY some biotite grains
64-68'	65-67'	3,6,8,11	Yellow-orange silty CLAY, trace of biotite, some micaceous grey silty CLAY
68-75'	70-72'	8,10,15,20	Green micaceous CLAY, trace of medium grained silica s
75'	75-79'	18,22,28,50	END HOLE

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Drilling Log

Well Number CR-1B

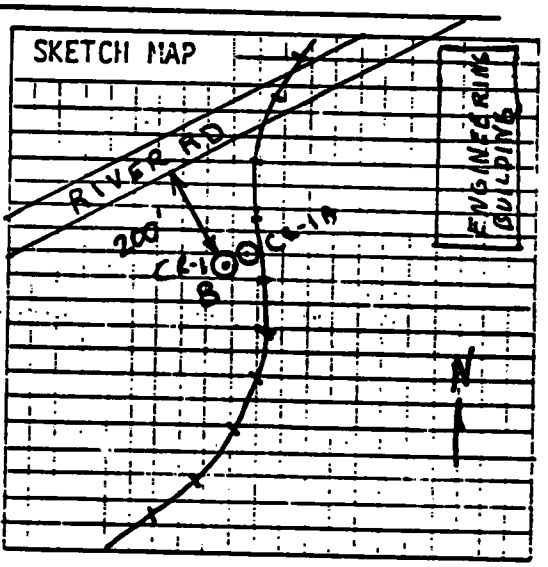
Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Along railroad tracks, southwest of engineering building
Driller/Company Calvin and Tom/Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Mud Rotary Hole Diameter 8" Date(s) Drilled 10/17/83
Sample Type Split Spoon Sample Interval 5' No. Samples Retained 4
Surface Elevation 20.85 ' Casing Top Elevation 24.06 'Steel Total Well Depth 22'
Casing Material and Size Schedule 40 PVC 4" ID Cased Interval(s) 0 - 17'
Grouting Type Portland Cement Grouted Interval 0 - 5'
Screening Material and Size 4" ID 0.01" slotted PVC Screened Interval(s) 17' - 22'
Packing Material and Size Coarse, silica sand Packed Interval 5' - 22'
Depth to Static Water 15.58' Steel Date 10/27/83 Approx Well Yield 3 gpm
Development Method Compressed Air Development Time 2 hours
Logged by: R.E. Sacks

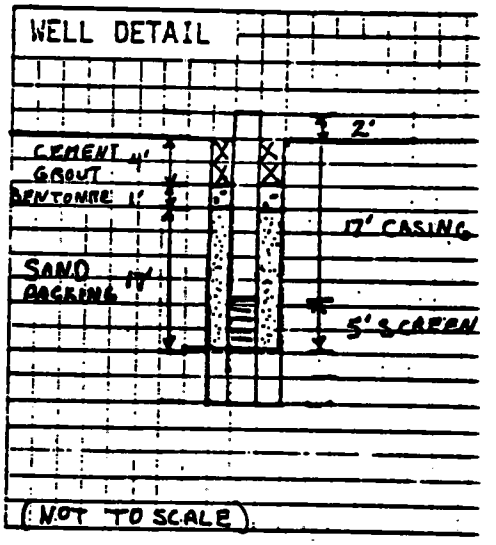
Comments Quik-gel used

Spoon blows = 2' Penetration unless noted

Split spoon samples were low yield

No readings on OVA





Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 4'	5	110	Brown, gravelly, silty, fine-grained SAND
4' - 13'	10	58	Brown, fine-medium grained SAND, slightly pebbly
13'-27'	15	200/18"	Brown, fine-coarse GRAVEL with some medium-coarse sand and small cobbles
	20	150/7"	Oily sheen on drilling fluid @ + 23'
27'			Encountered a large rock
27'			End of hole

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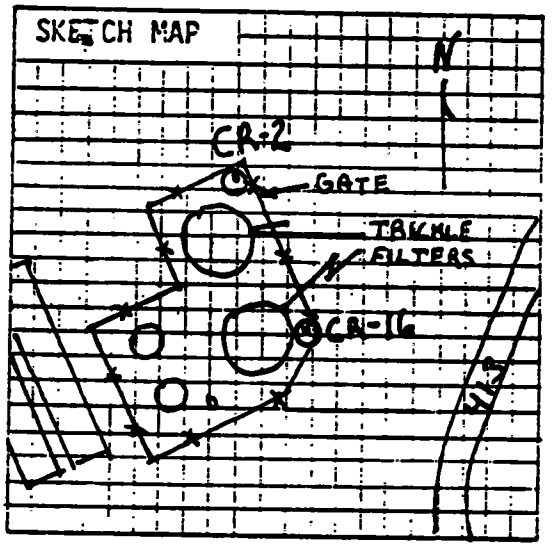
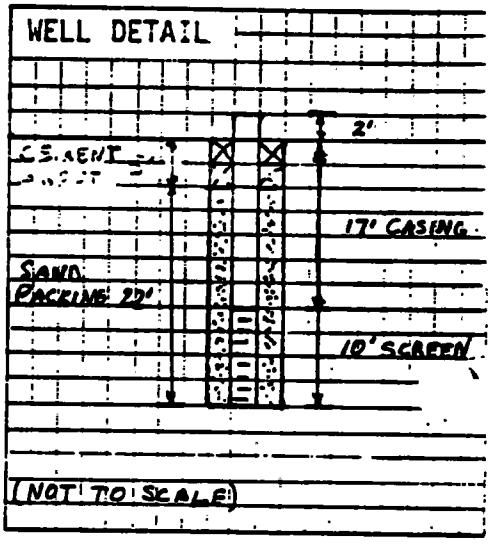
Drilling Log

Well Number CR-2

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Northeast of Rohm and Haas Trickle filters
Driller/Company Calvin & George/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Auger Hole Diameter 12" Date(s) Drilled 10/12/83
Sample Type Cuttings Sample Interval Continuous No. Samples Retained None
Surface Elevation 19.77' SL Casing Top Elevation 22.48' Steel Total Well Depth 27'
Casing Material and Size Schedule 40 PVC 4" ID Cased Interval(s) 0' - 17'
Grouting Type Portland Cement Grouted Interval 0' - 5'
Screening Material and Size 4" ID 0.01" slotted PVC Screened Interval(s) 17' - 27'
Packing Material and Size Coarse grained, silica sand Packed Interval 5' - 27'
Depth to Static Water 11.5' Steel Date 10/27/83 Approx Well Yield 3 gpm
Development Method Compressed Air Development Time 1 hour
Logged by: R.E. Sacks

Comments
No bentonite seal





Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 12'			Brown, sandy SILT with coarse, rounded gravel and small cobbles
12' - 27'			Brown, silty SAND with coarse gravel and occasional cobbles
27'			End of hole

000164

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Drilling Log

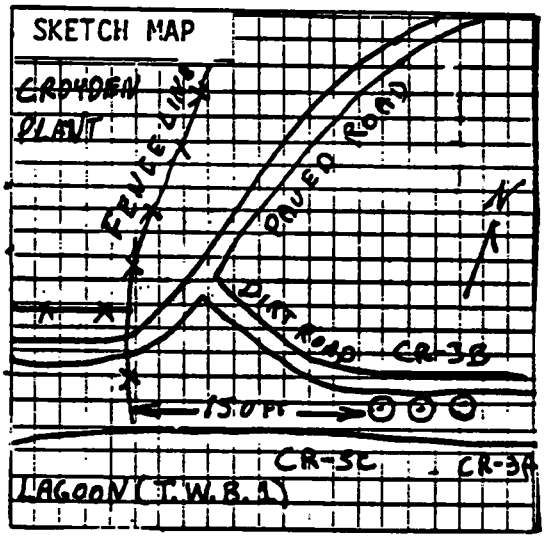
Well Number CR-3A

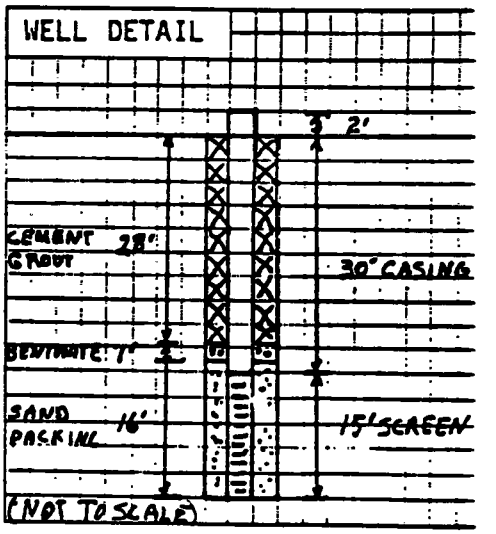
Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Next to lagoon, south of Croyden plant, south of settling basins
Driller/Company Albert Hammond/A.C. Schultes & Sons., Inc., Woodbury, NJ
Drilling Method Mud rotary Hole Diameter 8"
Date(s) Drilled 10/12/83- 10/13
Sample Type Cuttings Sample Interval Continuous
No. Samples Retained None
Surface Elevation 20.87'SL Casing Top Elevation 23.49' SteeTotal Well Depth 45'
Casing Material and Size Schedule 40 PVC 4" ID
Cased Interval(s) 0 - 30'
Grouting Type Portland Cement
Grouted Interval 0' - 29'
Screening Material and Size 4" ID 0.01" slotted PVC
Screened Interval(s) 30' - 45'
Packing Material and Size Coarse grained, silica sand
Packed Interval 29' - 45'
Depth to Static Water 12.42'Steel Date 10/28/83
Approx Well Yield 4-5 gpm
Development Method Compressed Air
Development Time 1 hour
Logged by: P.A. Coppock

Comments Quik-gel and revert used

Water foamed upon blowout

OVA not functioning





Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 5'			
5' - 10'			Fine-coarse GRAVEL, sand in silt
10'-15'			Coarse GRAVEL with sand, reddish-brown, sandy clay
15'-20'			Fine-coarse GRAVEL, fine, biotite sand
20'-25'			Dark, chemical, odorous fluid, left GRAVEL with a dark tint
25' - 32'			Dark fluid lessoning around fine-coarse grained GRAVEL
32'-25'			Fine-coarse angular GRAVEL
35' - 40'			Fine-coarse, angular GRAVEL, no more dark fluid
40' - 42'			Start of a yellow CLAY
42' - 66'			Yellow clay, grades downward to micaceous clay and SCHIST (55')
66'			End of hole

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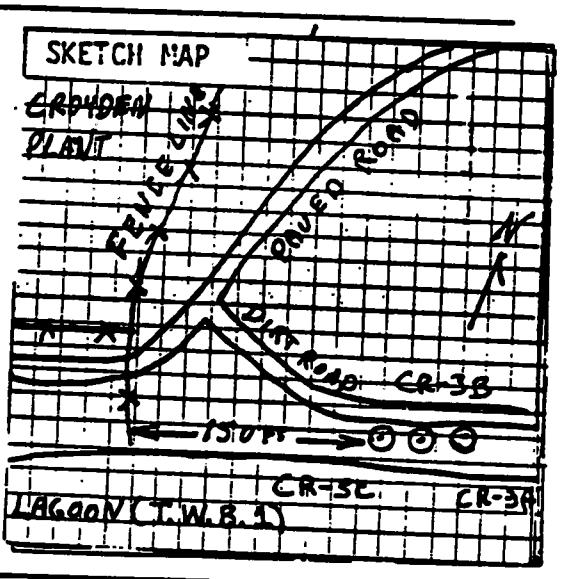
Drilling Log

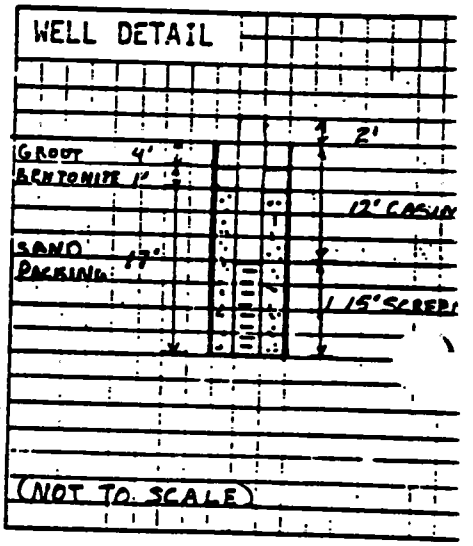
Well Number CR-3B

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Next to lagoon, south-east of Croyden plant, south of settling basins
Driller/Company Ken/Engineering Drilling Company
Drilling Method Mud rotary Hole Diameter 8"
Date(s) Drilled 10/21/83
Sample Type Cuttings Sample Interval Continuous No. Samples Retained None
Surface Elevation 20.82'SL Casing Top Elevation 23.57' Steel Total Well Depth 27
Casing Material and Size Schedule 40 PVC 4" ID Cased Interval(s) 0'- 12'
Grouting Type Portland Cement Grouted Interval 0'- 5'
Screening Material and Size 4" ID 0.01" slotted PVC Screened Interval(s) 12'-27'
Packing Material and Size Coarse, silica sand Packed Interval 5'- 22'
Depth to Static Water 12.50' Steel Date 10/28/83 Approx Well Yield 5 gpm
Development Method Compressed Air Development Time 0.75 hrs
Logged by: R.E. Sacks

Comments Revert used

Water foamy and odorous upon blowout





Depth Scale	Sample	Spoon Blows	Description of Materials
0'- 6'			Brown, sandy, gravelly SILT
6'- 11'			Brown, silty, medium sized, angular-rounded GRAVEL
11'-22'			Brown, silty, coarse GRAVEL, with some small cobbles
22'			END HOLE

000166

Betz-Converse-Murdoch-Inc. BCM

Drilling Log

Well Number CR-3C

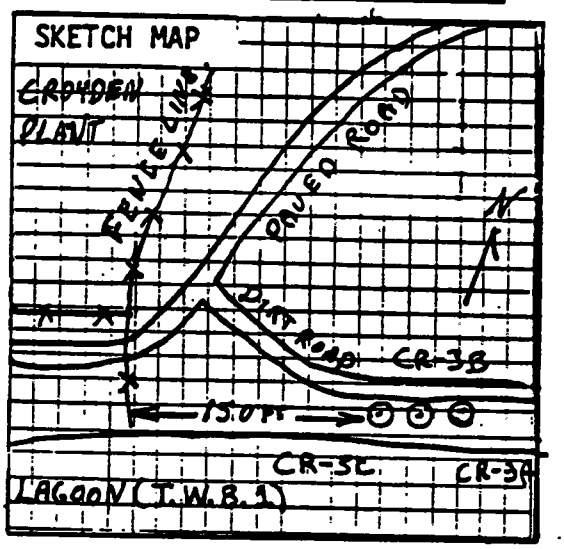
Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location Next to lagoon, southeast of settling basins, south of Croyden plant
Driller/Company Ken Kuterman / Engineering Drilling Co.
Drilling Method Mud rotary — Hole Diameter 7 3/8" — Date(s) Drilled 2/1/84
Sample Type Split Spoon — Sample Interval 5' Some Cont. — No. Samples Retained 15
Surface Elevation 20.89'SL — Casing Top Elevation 23.34' Steel — Total Well Depth 70'
Casing Material and Size Schedule 40 PVC 4" ID — Cased Interval(s) 0-60'
Grouting Type Portland Cement — Grouted Interval 0-58'
Screening Material and Size Sch 40 4"ID 0.016"slottedPVC — Screened Interval(s) 60-70'
Packing Material and Size Coarse grained, silica sand — Packed Interval 58-70'
Depth to Static Water 11.93 PVC — Date 2/17/84 — Approx Well Yield 1-2 gpm
Development Method Compressed Air — Development Time .5-.75 hr.
Logged by: Paula Coppock and Richard Sacks

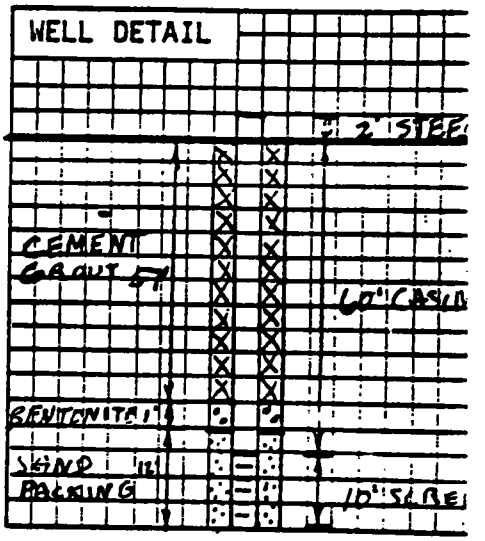
Comments

HNU- 1 ppm readings from black fluid

300 lb. hammer
2.5" spoon
2.0" spoon
3.0" spoon

cloudy





Depth Scale	Sample	Spoon Blows	Description of Materials
0-26'	5-7'	12,17,46,50	Brown sandy SILT- silty SAND some fine-coarse grained gravel, gravel is weathered
	10-12'	9,10,12,15	
26-28'			Black-dark brown, coarse grained GRAVEL, some biotite sand, chemical odor
	16-18'	19,15,17,21	
28-38'	18-20'	11,13,14,16	Black, biotite SAND, tar-like matrix, some fine-coarse grained gravel
	20-22'	12,16,18,21	
38-39'			Brown-dark brown, fine-coarse grained Gravel
	22-24'	9,16,19,20	
39-43'			Yellow-green, biotite CLAY
	24-26'	4,12,11,12	
43-50'			Black, oderous micaceous, clayey SILT, some grey clay and brown-orange silt Same chemical odor as as 26'
	26-28'	9,19 20,13	
	28-30'	16,41,32,38	
50-60'			Green, micaceous, weathered SCHIST becoming more solid, less weathered
	30-32'	18,24,21,35	
60-70'	35-37'	29,27,30,41	Harder, less weathered SCHIST

DRILLING LOG
Well CR-3C

Depth Scale	Sample	Spoon Blows	Description of Materials
	40-42'	12,9,10,13	NS
	43-45'	14,15,18,18	
	50-52'	4,3,5,8	NS
	52-54'	2,5,5,6	
	60-62'	½,6,11,13	
	70-71'	1/7,14,16,33	
	70'		END HOLE

Betz·Converse·Murdoch·Inc. BCM

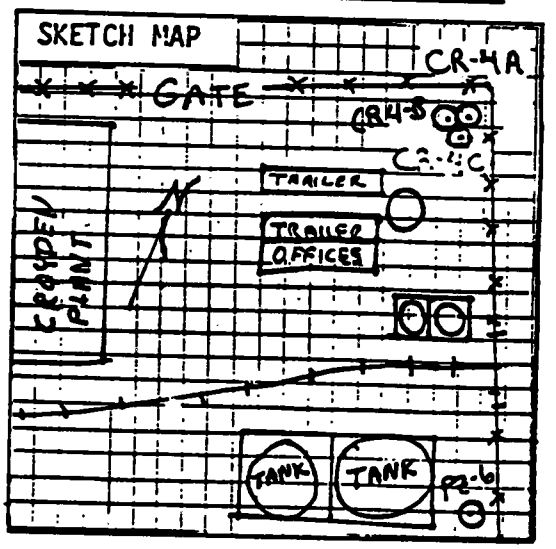
Drilling Log

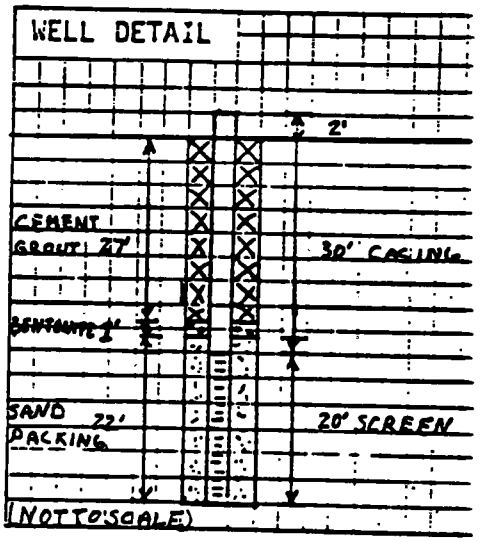
Well Number CR-4A

Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location Northeast corner of Croyden plant
Driller/Company Alby Hammond/A.C. Schultes & Sons., Inc., Woodbury, NJ
Drilling Method Mud rotary — Hole Diameter 8" — Date(s) Drilled 10/10/83
Sample Type Cuttings — Sample Interval Continuous — No. Samples Retained None
Surface Elevation 16.07'SL — Casing Top Elevation 19.26'Steel — Total Well Depth 50'
Casing Material and Size Schedule 40 PVC 4" ID — Cased Interval(s) 0'- 30'
Grouting Type Portland cement — Grouted Interval 0'- 28'
Screening Material and Size 4" ID 0.01" slotted PVC — Screened Interval(s) 30'- 50'
Packing Material and Size Coarse grained silica sand — Packed Interval 28'- 50'
Depth to Static Water 7.58' Steel — Date 10/27/83 — Approx Well Yield 18 gpm
Development Method Compressed Air — Development Time 4.0 hrs
Logged by: R.E. Sacks and P.A. Coppock

Comments Quik-gel and Supercol used

Chemical odors detected during development





Depth Scale	Sample	Spoon Blows	Description of Materials
0'- 8'			Medium to coarse SAND and fine GRAVEL
8'- 8.5'			Brown, silty CLAY
8.5-19'			Coarse SAND and GRAVEL with silty interbeds
19-21			Coarse SAND and GRAVEL, trace of clay
21-36'			Sandy, red and brown, micaceous CLAY
36-37'			Coarse SAND and GRAVEL reddish-brown clay with the start of a white micaceous clay
37-50'			Grey-green SAND with the white micaceous clay plus a black clay with a chemical odor, oily sheen on water in
50-61'			White-brown CLAY with a coarse SAND
61-71'			Weathered schist
			MicaceousCLAY, fresh mica attached to coarse angular quartz fragments
71'			End of hole

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Drilling Log

Well Number CR-4B

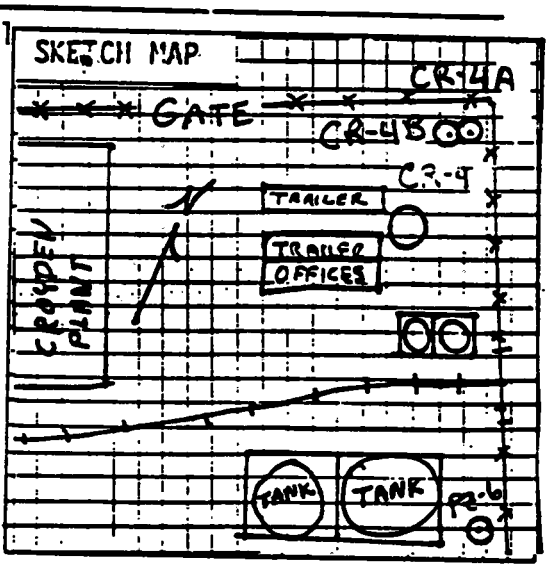
Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location Northeast corner of Croyden plant
Driller/Company Alby Hammand/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Mud rotary — Hole Diameter 8" — Date(s) Drilled 10/11/83 10:0
Sample Type Cuttings — Sample Interval Continuous — No. Samples Retained None
Surface Elevation 16.19'SL — Casing Top Elevation 19.05'Steel — Total Well Depth 20'
Casing Material and Size Schedule 40 PVC 4" ID — Cased Interval(s) 0' - 10'
Grouting Type Portland cement — Grouted Interval 0' - 6'
Screening Material and Size 4" ID 0.01" slotted PVC — Screened Interval(s) 10' - 20'
Packing Material and Size Coarse grained silica sand — Packed Interval 6' - 25'
Depth to Static Water 7.50'steel — Date 10/27/83 — Approx Well Yield 5 gpm
Development Method Compressed air — Development Time 0.33 hrs
Logged by: P.A. Coppock

Comments: Revert and Supercol used

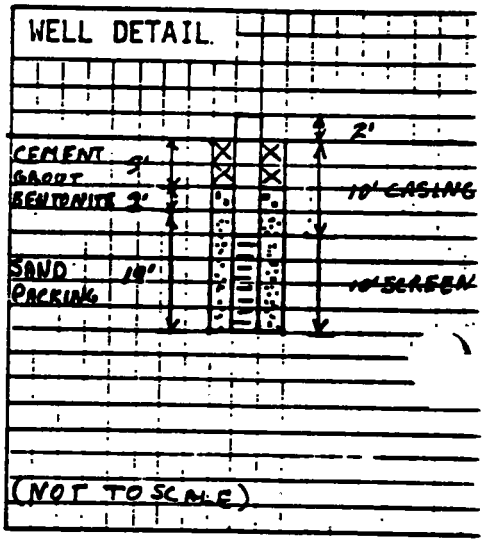
Fish tail bit used in shallow overburden

No odors

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 10'			Angular, fine GRAVEL
10'- 14'			Angular, fine to coarse GRAVEL with a brown, silty sand
14'-18'			Brown, silty SAND and brown CLAY with fine to coarse grain gravel and red, silty clay
18' - 21'			Brown silty SAND, trace of gravel, biotite flakes, red, silty clay
21'-22'			Fine to coarse, slightly rounded GRAVEL, brown, silty SAND and some red, silty clay
23'			End of hole

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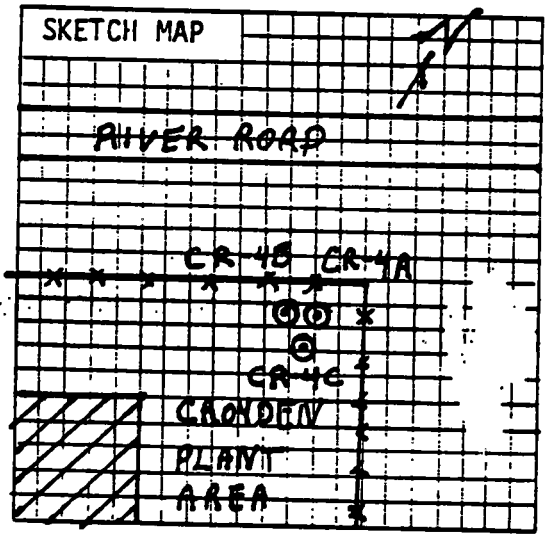
Drilling Log

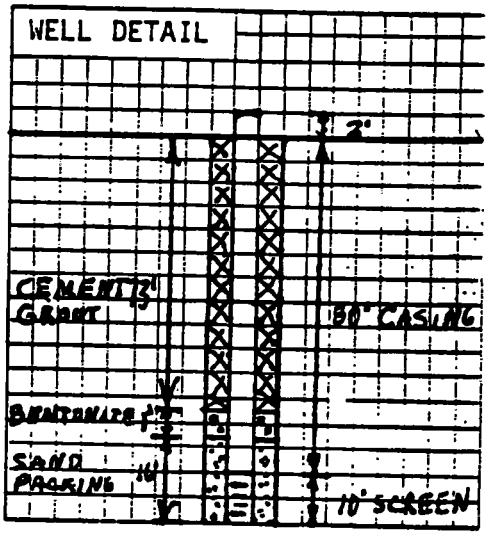
Well Number CR-4C

Client Rohm & Haas
Well Location North-east corner of Croyden Plant, inside of fence
Driller/Company Ken Kutarnia / Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 7 3/8"
Sample Type Split Spoon Sample Interval 5'
Surface Elevation 16.67' Casing Top Elevation 19.33'
Casing Material and Size 4" ID SCH 40 PVC
Grouting Type Portland Cement
Screening Material and Size 4"ID SCH 40 0.016"Slotted PVC
Packing Material and Size Coarse grained, silica sand
Depth to Static Water 7.79' Steel Date 3/5/84
Development Method Compressed Air
Logged by: Paula A. Coppock

Project No. 00-4061-02
Date(s) Drilled 2-22-84 & 2-24-
No. Samples Retained 8
Total Well Depth 90' Steel
Cased Interval(s) 0-80'
Grouted Interval 0-74'
Screened Interval(s) 80-90'
Packed Interval 74-90'
Approx Well Yield .5 gpm
Development Time 1 hr

Comments
No readings on HNU
Water is cloudy





Depth Scale	Sample	Spoon Blows	Description of Materials
0-3'			Brown SILT
3-16'			Brown, sandy SILT and fine-coarse grained GRAVEL
16-18'			Brown, sandy SILT
18-23'			Brown, sandy SILT and fine-coarse grained Gravel, sand is medium-coarse grained. Silt and gravel is interbedded from 3' to 32'
23-32'			Brown, sandy SILT, little grey silty clay, some fine-medium grained gravel
32-34'			Brown, silty, coarse grained SAND, some rounded, fine grained quartz gravel
34-36.5'	35'	10,16,16,20	Brown, tan, grey, silty, SAND, some grey clay
	37'	4,8,15,15	
36.5-42'	39'	3,4,9,9	Black-grey, medium grained SAND with chemical odor
42-45'	45-47'	4,5,6,10	Grey, sandy CLAY, layers of black medium grained sand with chemical odor

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DRILLING LOG
Well CR-4C

Depth Scale	Sample	Spoon Blows	Description of Materials
45-48'			Black, medium grained SAND with chemical odor, some light brown clay layered with black sand
48-53'	50-52'	5,6,9,11	White and yellow CLAY with biotite
53-60'	55-57'	2,3,6,7	Yellow-orange, silty micaceous CLAY
60-83'	60-62'	10,11,15,15	Green-black micaceous CLAY, and biotite, some angular, white, fine grained gravel, some white clay
	65-67'	5,7,13,15	
83-95'			Green micaceous CLAY biotite, some white clay, some white coarse grained angular sand
95-100'			BIOTITE and white CLAY, color is grey
100'			END HOLE

000172

Betz-Converse-Murdoch-Inc. BCM

Drilling Log

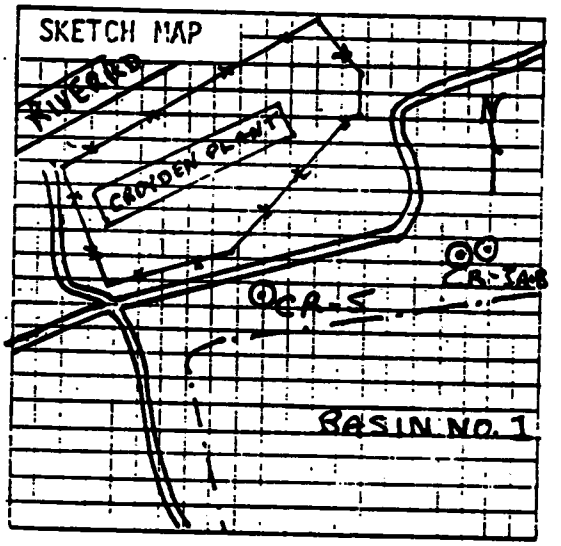
Well Number CR-5

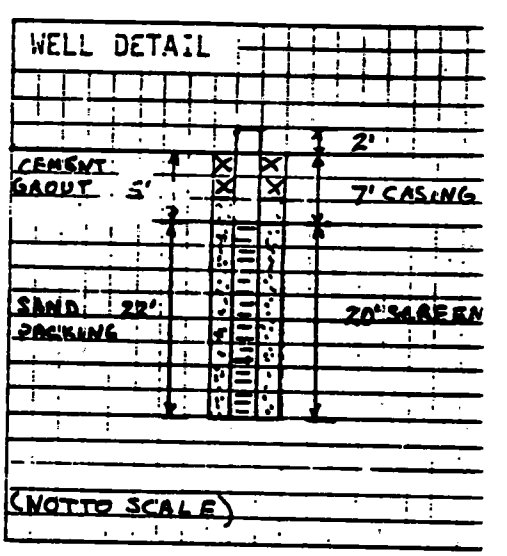
Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location South of Crouden Plant along Road outside of fence
Driller/Company Calvin Wallace/A.C.Schultes & Sons., Inc., Woodbury, NJ
Drilling Method Auger Hole Diameter 12" Date(s) Drilled 10/12/83
Sample Type Cuttings Sample Interval Continuous No. Samples Retained None
Surface Elevation 19.22'S L Casing Top Elevation 21.69' SteeTotal Well Depth 27'
Casing Material and Size Schedule 40 PVC 4" ID Cased Interval(s) 0' - 7'
Grouting Type Portland Cement Grouted Interval 0' - 5'
Screening Material and Size 4" ID 0.01 slotted PVC Screened Interval(s) 7' - 27'
Packing Material and Size Coarse grained, silica sand Packed Interval 5' - 27'
Depth to Static Water 10.69' Steel Date 10/28/83 Approx Well Yield 2 - 3 gpm
Development Method Compressed Air Development Time 0.75 hrs
Logged by: R.E. Sacks

Comments @27' short peaks on OVA (15-20 ppm) at top of hole

17-27' OVA 200-300 ppm inside hole

no bentonite seal





Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 27'			Brown sandy SILT with rounded, coarse gravel and small cobbles
			Grades downward to a silty SAND with rounded, coarse GRAVEL and small cobbles
			Black - organic material @ 17-27'
27'			End of hole

000173

Betz·Converse·Murdoch·Inc. BCM

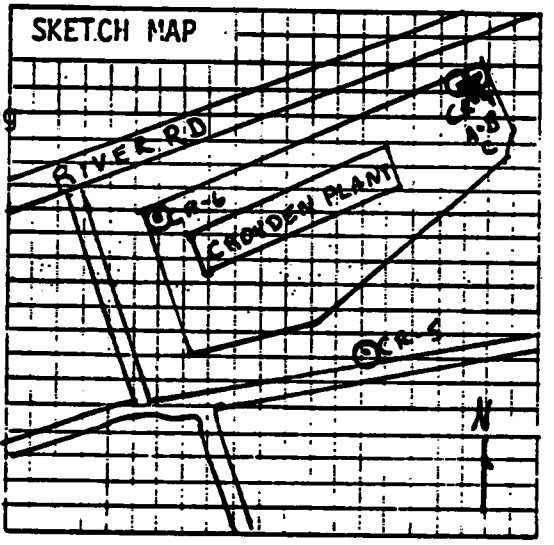
Drilling Log

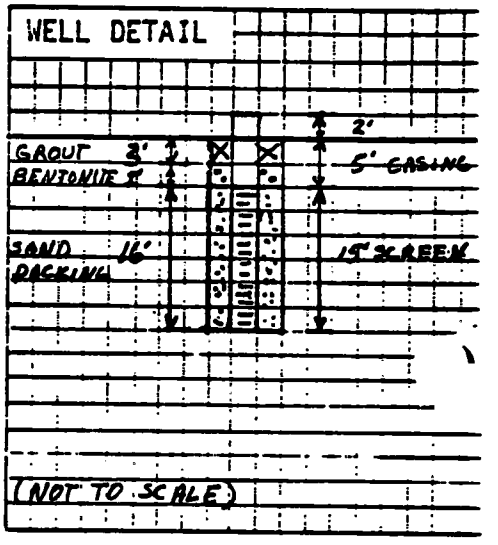
Well Number CR-6

Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location North-west corner of Croyden Plant
Driller/Company Alby Hammond/A.C. Schultes & Sons., Inc., Woodbury, NJ
Drilling Method Mud rotary — Hole Diameter 8" — Date(s) Drilled 10/7/83
Sample Type Cuttings — Sample Interval Continuous — No. Samples Retained None
Surface Elevation 14.98' SL — Casing Top Elevation 17.58 Steel — Total Well Depth 20'
Casing Material and Size Schedule 40 PVC 4" ID — Cased Interval(s) 0 - 5'
Grouting Type Portland cement — Grouted Interval 0 - 5'
Screening Material and Size 4" ID 0.01" slotted PVC — Screened Interval(s) 5' - 20'
Packing Material and Size Coarse grained, silica sand — Packed Interval 4' - 20'
Depth to Static Water 6.83' steel — Date 10/26/83 — Approx Well Yield 6 gpm
Development Method Compressed Air — Development Time 1.0 hr
Logged by: P.A. Coppock

Comments No odor
O VA = 5 ppm

Bentonite used in drilling fluid





Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 19'			Fine-coarse GRAVEL consisting of quartzite and sandstone
			that is white, red, and green
19' - 27'			Decomposed SCHIST consisting of a micaceous clay. The
			color is olive green with white, yellow and black. The
			black consists of biotite flakes
27'			Amount of biotite increasing
27'			End of hole

000174

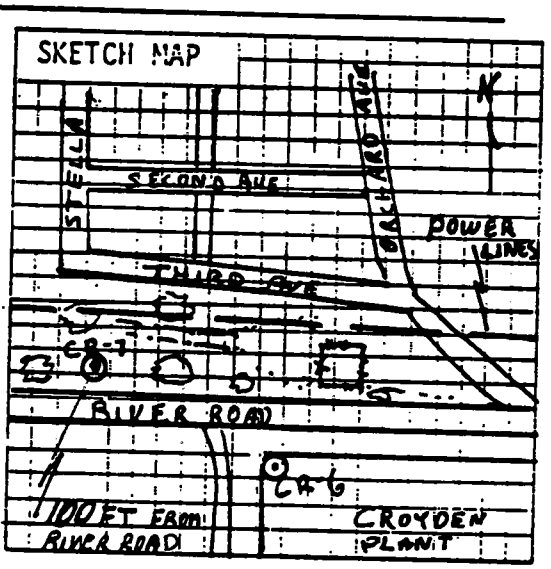
Bell Converse-Murdoch Inc. BCM

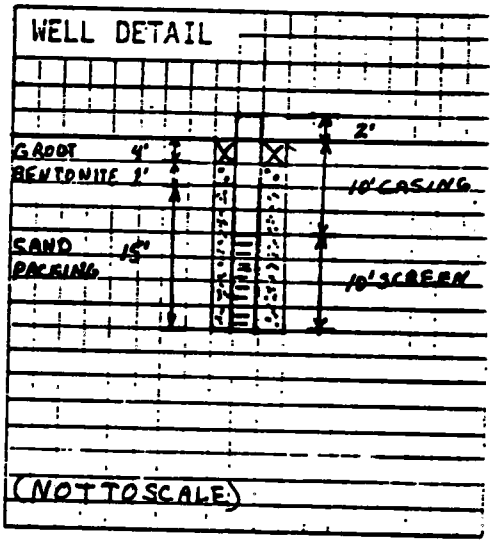
Drilling Log

Well Number CR-7

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Near horse ranch, along power lines, north of River Road
Driller/Company J. Schultes/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Auger
Hole Diameter 12"
Date(s) Drilled 10/14/83
Sample Type Cuttings
Sample Interval Continuous
No. Samples Retained None
Surface Elevation 16.10' SL
Casing Top Elevation 18.92' Steel
Total Well Depth 20'
Casing Material and Size Schedule 40 PVC 4" ID
Cased Interval(s) 0' - 10'
Grouting Type Portland Cement
Grouted Interval 0' - 5'
Screening Material and Size 4" ID 0.01" slotted PVC
Screened Interval(s) 10' - 20'
Packing Material and Size Coarse grained, silica sand
Packed Interval 5' - 20'
Depth to Static Water 10.25 Steel
Date 10/27/83
Approx Well Yield 1 - 2 gpm
Development Method Compressed Air
Development Time 1 hour
Logged by: R.E. Sacks

Comments OVA=1 ppm above background





Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 1'			Dark, brown, sandy SILT with roots and plant material
1' - 8'			Brown, silty, fine grained SAND with some large pebbles and small cobbles
8' - 19'			Brown, fine-coarse silty SAND and fine GRAVEL
19' - 25'			Weathered SCHIST, micaceous clay
25'			End of hole

CRAIG TESTING LABORATORIES, INC.

565 East Harding Highway, Mays Landing, New Jersey 08330 • (609) 625-1700
1600 Broadway, Westville, New Jersey 08093

Testing -:- Inspection -:- Asphalt -:- Chemical Analysis -:- Test Borings -:- Foundations -:- Soils -:- Water -:- S

CLIENT Rohm and Haas Delaware Valley, Inc. DATE December 19, 1979

PROJECT Plant Control - Bristol, PA PO#003-02659 LAB. NO. 43877

Boring No. CR-8 Sheet No. 1 of 1 Ground Surface Elev. *

Ground Water Data			
Depth	Hour	Date	Hrs. After Completion
7'		12/5/79	Comp. of Hole

A – Method of Advancing Boring	Depth
Rotary Method	0 to 17
	to
	to

Depth	A	Sample No.	Sample Depth	N	Soil Classification	Remarks
10			0-10'		Brown C/F Sand Trace Silt Some Sm. Gravel	10'
15			10-17.5'		Brown Wet C/F Sand Some Silt and Some Large Cobbles	17.5'
20					Auger Boring Completed at 17.5 feet below existing grade.	

Monitoring Well No. 4 Information

Water First Encountered	7 feet
Soil Boring Completed	17.5 feet
Well Point Set	17 feet
Pumping Rate	6 GPM
Draw Down	9 feet
**Static Water Level	7 feet

**Water Level Follows Tide of Delaware River

*Exact boring locations and ground surface elevations were established and determined by client.

S – 2" O. D. Split Spoon Sample
U – Undisturbed Sample, 3" Diameter
— Core Drilling
N – Standard Penetration Resistance per 6" (140# hammer, 30" drop)
N.R – No Recovery

000176

Driller Jay Freck

Betz·Converse·Murdoch·Inc. BCM

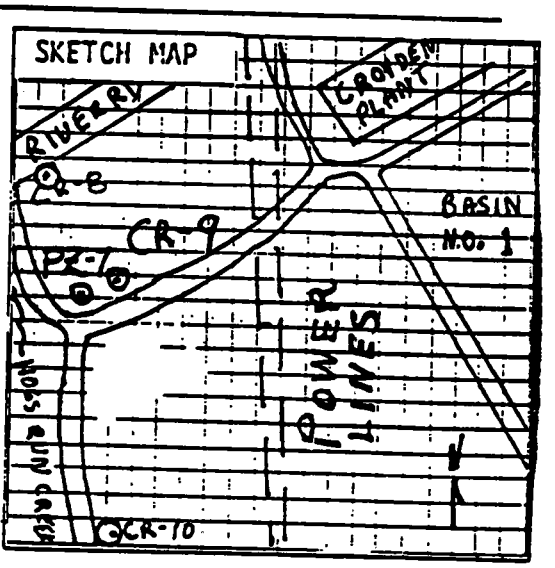
Drilling Log

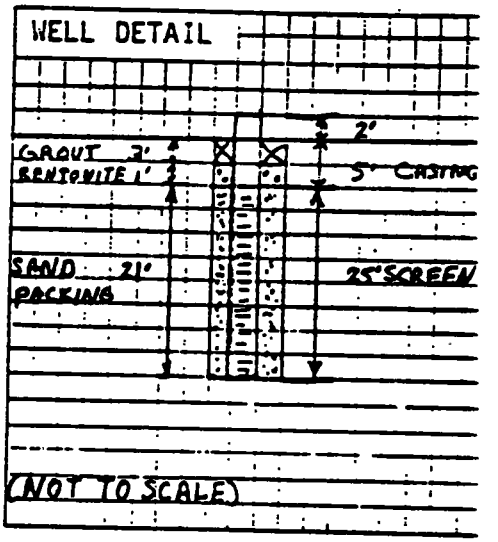
Well Number CR-9

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location West of power lines, south-west of Croyden plant, east of Hog Run Creek
Driller/Company Alby Hammond/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Mud rotary Hole Diameter 8"
Date(s) Drilled 10/13/83
Sample Type Cuttings Sample Interval Continuous No. Samples Retained None
Surface Elevation 10.98'SL Casing Top Elevation 13.98'Steel Total Well Depth 25'
Casing Material and Size Schedule 40 PVC 4" ID Cased Interval(s) 0' - 5'
Grouting Type Portland Cement Grouted Interval 0' - 4'
Screening Material and Size 4" ID 0.01" slotted PVC Screened Interval(s) 5-25'
Packing Material and Size Coarse grained silica sand Packed Interval 4' - 25'
Depth to Static Water 6.48'steel Date 10/31/83 Approx Well Yield 4 gpm
Development Method Compressed Air Development Time 0.75 hrs
Logged by: D.J. Varner

Comments OVA - maintained 5 - 7 ppm with occasional peak at 10 ppm for entire hole

OVA ambient + 5 ppm





Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 17'			Sandy, cobblesize GRAVEL, wood chips and scattered, clear, rubbery, plastic shred in top 6 feet
			Numerous medium to large, quartz cobbles in well rounded,
17'-27'			fine GRAVEL
			Decomposed micaceous CLAY with white to rust quartz
			grains. Top of weathered zone predicted
			Cobbles at 19' cause refusal
			Solvent -like odor as mud pan is drained
27' - 32'			Fresher SCHIST (harder drilling)
32'			End of hole

AR000177

Betz·Converse·Murdoch·Inc. BCM

Drilling Log

Well Number CR-10

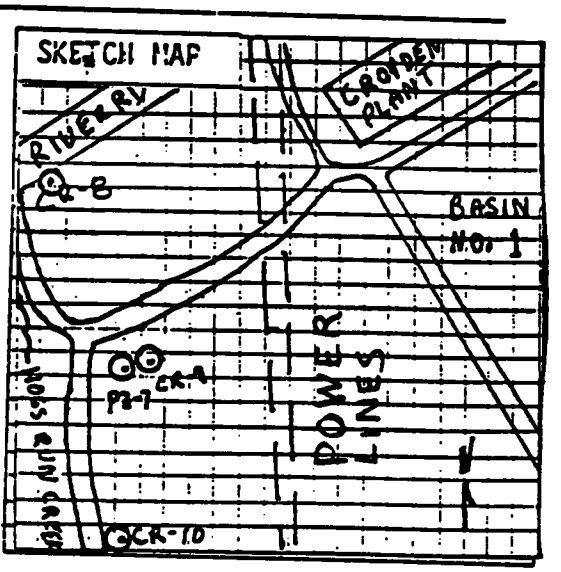
Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location West of power lines east of Hog Run Creek, just south of CR-9
Driller/Company Albert Hammond/A.C. Schultes & Sons, Inc. Woodbury, NJ
Drilling Method Mud rotary Hole Diameter 8"
Date(s) Drilled 10/15/83
Sample Type Cuttings Sample Interval Continuous
No. Samples Retained None
Surface Elevation 10.44'SL Casing Top Elevation 13.62' Steel
Total Well Depth 27'
Casing Material and Size Schedule 40 PVC 4" ID
Cased Interval(s) 0' - 7'
Grouting Type Portland Cement
Grouted Interval 0' - 5'
Screening Material and Size 4" ID 0.01" slotted PVC
Screened Interval(s) 7' - 27'
Packing Material and Size Coarse grained, silica sand
Packed Interval 5' - 27'
Depth to Static Water 9.56' Steel Date 10/31/83
Approx Well Yield 3 gpm
Development Method Compressed Air
Development Time 1 hr
Logged by: R.E. Sacks

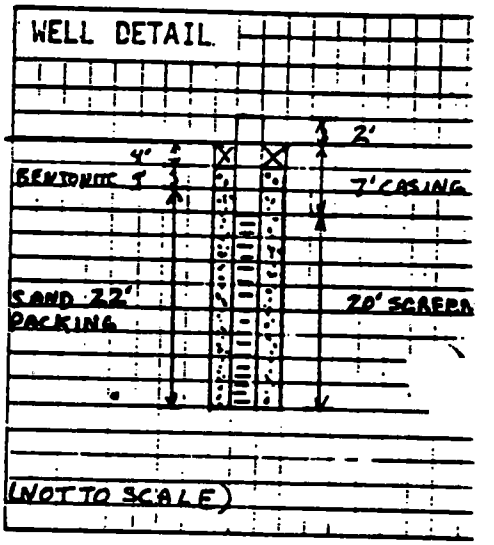
Comments Drilling water slightly foamy

Quik-gel used

OVA-max 20 ppm @ 5-6'

OVA below 5 ppm @ 8-20'





Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 8'			Fine SAND, and SILT with some GRAVEL, also rubbery materi
8' - 20'			dark, brown, clayey SILT, small amounts of gravel @ 19-20'
20-28'			Pebbly GRAVEL, slightly silty at top
28-31'			Coarse SAND to well rounded, multi-colored, fine GRAVEL
			plant debris
31'			Encountered hard object
31'			End of hole

CRAIG TESTING LABORATORIES, INC.

565 East Harding Highway, Mays Landing, New Jersey 08330 • (609) 625-1700
1600 Broadway, Westville, New Jersey 08093

Testing -:- Inspection -:- Asphalt -:- Chemical Analysis -:- Test Borings -:- Foundations -:- Soils -:- Water -:- Steel

CLIENT Rohm and Haas Delaware Valley, Inc. DATE December 19, 1979

PROJECT Plant Control - Bristol, PA PO#003-02659 LAB. NO 43877

Boring No. CR-11 Sheet No. 1 of 1 Ground Surface Elev. *

Ground Water Data			
Depth	Hour	Date	Hrs. After Completion
6'	LOW TIDE		Comp. of Hole

A – Method of Advancing Boring	Depth
Rotary Method	0 to 16.5
	to
	to

Depth	A	Sample No.	Sample Depth	N	Soil Classification	Remarks
			0-6'		Brown M/F Sand (Fill) Some Cement	6'
			6-10'		Brown Wet C/F Sand Some M/F Gravel	10'
			10-16.5'		Brown Wet Silty F/Sand	16.5'
					Auger Boring Completed at 16.5 feet below existing grade.	

Monitoring Well No. 5 Information

Water First Encountered	6 feet
Soil Boring Completed	16.5 feet
Well Point Set	16 feet
Pumping Rate	5 GPM
Drawn Down	10 feet
**Static Water Level	6 feet

**Water Level Follows Tide of Delaware River.

*Exact boring locations and ground surface elevations were established and determined by client.

S – 2" O. D. Split Spoon Sample
U – Undisturbed Sample, 3" Diameter
— Core Drilling
N – Standard Penetration Resistance per 6" (140# hammer, 30" drop)
N.R – No Recovery

Driller Jay Preck

CL-150

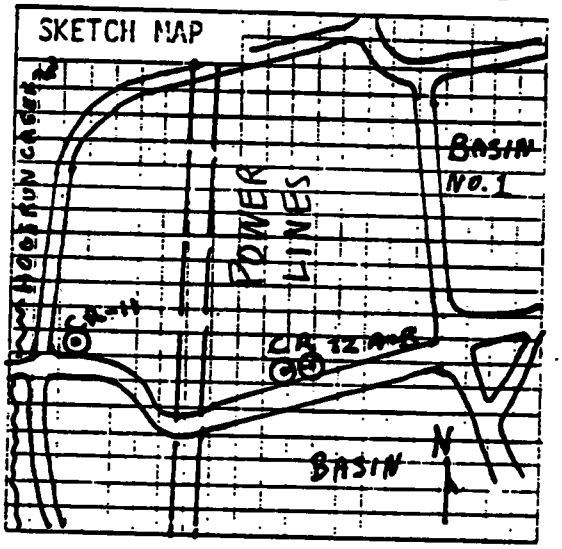
000179

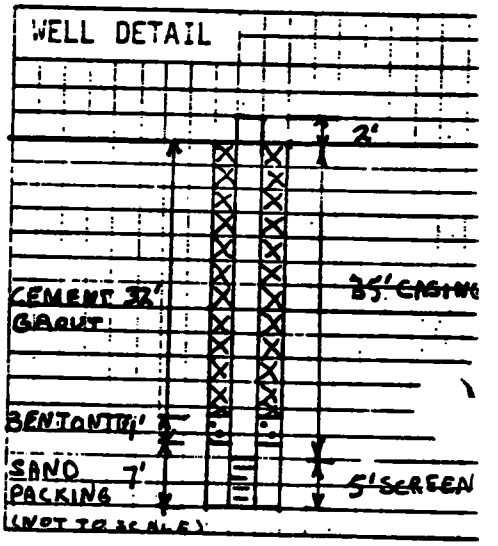
Drilling Log

Well Number CR-12A

Client Rohm and Haas
Project No. 00-4061-02
Well Location Landfill next to a lagoon east of Hog Run Creek
Driller/Company Calvin Wallace/C. Schultes & Son, Inc., Woodbury, NJ
Drilling Method Mud rotary Hole Diameter 8" Date(s) Drilled 10/19 - 10/20/8
Sample Type Split spoon Sample Interval 5' No. Samples Retained 13
Surface Elevation 12.63' Casing Top Elevation 14.91' Steel Total Well Depth 40'
Casing Material and Size Schedule 40 PVC 4" ID Cased Interval(s) 0' - 35'
Grouting Type Portland cement Grouted Interval 0' - 33'
Screening Material and Size 4" ID 0.01" slotted PVC Screened Interval(s) 35' - 40'
Packing Material and Size Coarse grained, silica sand Packed Interval 33' - 65'
Depth to Static Water 10.85' Steel Date 10/21/83 Approx Well Yield 5 gpm
Development Method Compressed Air Development Time 0.75 hrs
Logged by: P.A. Coppock

Comments Supercol & Quik-gel used





Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 5'	5-7	46	Silty, silica SAND light at top and brown-black matrix at bottom
5-10'	10-12	69	Black CLAY with plant debris grading into a coarse SAND
10-15'	15-17	60	Brown, fine-medium, clayey, silty SAND interbedded with a black, coarse sand
15-20'	20-22	100	Fine-coase, slightly rounded GRAVEL fining downward in a fine-medium sand matrix GRAVEL red, green, white, black, re
20-25'	25.0-25.6	250	Coarse, rounded GRAVEL, black CLAY with plant debris
25-30'	30.0-30.3	100	Poorly sorted, red, white, black green, fine-coarse GRAVEL w/small amounts of sand
30-35'	35.0-35.5	100	Poorly sorted, multi-colored, sandy GRAVEL
35-40'	40.0-40.7	120	Angular, coarse GRAVEL - hardspot @ 40' with a med-coarse sand
40-45'	45.0-45.7	100	White CLAY with biotite, small amounts of GRAVEL
45-50'	50.0-51.0	125	White CLAY with biotite and small amounts of GRAVEL
50-55'	55-56	130	Green CLAY with a fine quartz GRAVEL white clay w/biotite
55-60'	60-62	113	Biotite rich white-gray CLAY with fine, quartz GRAVEL, red green biotite rich CLAY
60-65'	65.0-65.7	150	Decomposed SCHIST, flakes in line with bedding
65-66'	65-66	200	Shelby tube sample
66'			End of Hole

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Drilling Log

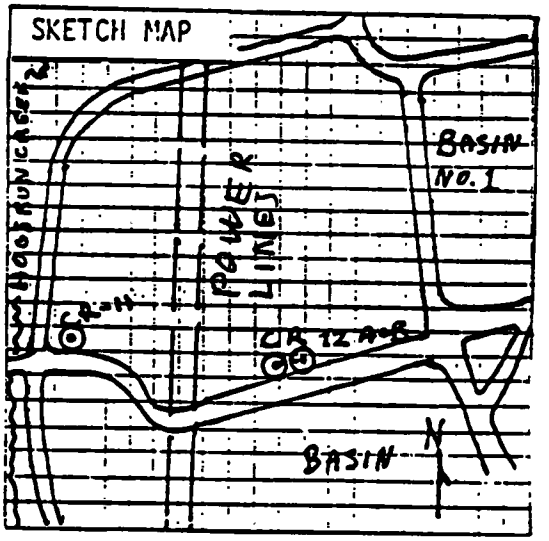
Well Number CR-12B

Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location In Landfill on north side of TWB-3A
Driller/Company Albert Hammond/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Mud Rotary — Hole Diameter 8" — Date(s) Drilled 10-24-83
Sample Type Cuttings — Sample Interval Continuous — No. Samples Retained None
Surface Elevation 12.17'SL — Casing Top Elevation 14.55' Steel — Total Well Depth 20'
Casing Material and Size Schedule 40 PVC 4" ID — Cased Interval(s) 0' - 10'
Grouting Type Portland cement — Grouted Interval 0' - 8'
Screening Material and Size 4" ID 0.01" slotted PVC — Screened Interval(s) 10' - 20'
Packing Material and Size Coarse grained, silica sand — Packed Interval 8' - 20'
Depth to Static Water 10.48 steel — Date 10/31/83 — Approx Well Yield 15 - 20 gpm
Development Method Compressed Air — Development Time 0.5 hrs
Logged by: P. A. Coppock

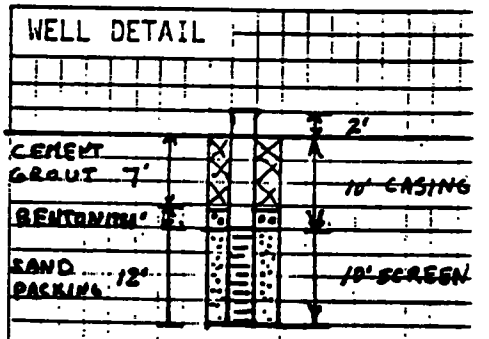
Comments Quik-gel and Supercol used

Water slightly green

SKETCH MAP



WELL DETAIL



(NOT TO SCALE)

Depth Scale	Sample	Spoon Blows	Description of Materials
0' - 7'			Brown-black, silty SAND, black, organic CLAY, Plant debris at 7ft
7' - 10'			Multi-colored, fine-coarse GRAVEL with thin, brown clay and sand interbeds
10' - 20'			Fine GRAVEL and SAND, coarse gravel @ 18'
20' - 30'			Red, green, white, black & brown GRAVEL with medium graine brown sand matrix
30'			End of hole

000181

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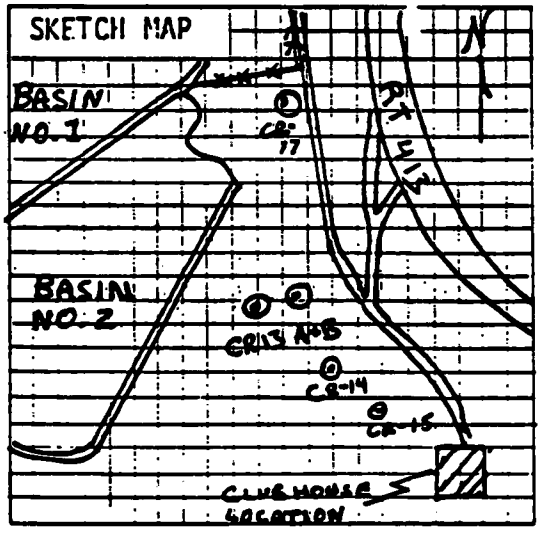
Drilling Log

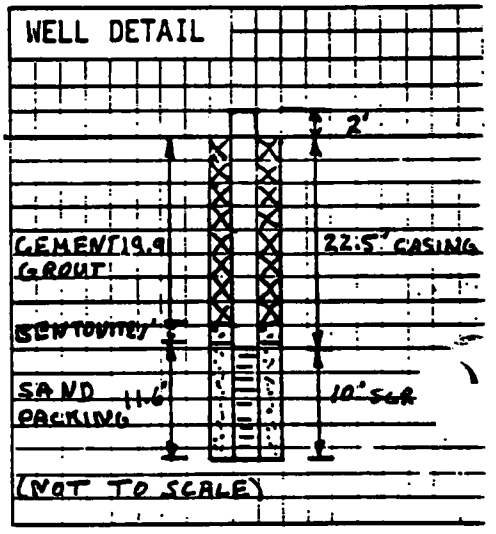
Well Number CR-13A

Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location 400 feet northwest of clubhouse
Driller/Company Alby Hammond/A.C. Schultes & Sons, Inc. Woodbury, NJ
Drilling Method Mud Rotary — Hole Diameter 8" — Date(s) Drilled 9-28-83
Sample Type Cuttings — Sample Interval Continuous — No. Samples Retained None
Surface Elevation 9.80' SL — Casing Top Elevation 12.69' Steel — Total Well Depth 32.5'
Casing Material and Size Sch 40 PVC 4" ID — Cased Interval(s) 0.0' - 22.5'
Grouting Type Portland Cement — Grouted Interval 0.0' - 20.9'
Screening Material and Size 4" ID 0.02" slotted PVC — Screened Interval(s) 22.5' - 32
Packing Material and Size Coarse grained silica sand — Packed Interval 20.9' - 32.5'
Depth to Static Water 8.00' steel — Date 11-1-83 — Approx Well Yield 10 gpm
Development Method Compressed air — Development Time 1 hr.
Logged by: ALAN M. ROBINSON

Comments

Further wells indicate that the schist did indeed begin at 35'





Depth Scale	Sample	Spoon Blows	Description of Materials
0'-8'			Fine grained, silty SAND
8'-25'			Coarse grained, GRAVEL with sand, silt and some clay
25'-35'			Coarse grained, GRAVEL with sand, silt and some clay
35'-42'			Sandy, light brown CLAY with medium grained gravel in clay matrix, yellow-brown clay with very little % mica. Start of weathered SCHIST @ 35'?
42'-48'			Light brown-light gray CLAY. Clay progressively grayer. Some clay with sand, - particles becoming argular @ 45'
48'-50'			Light gray, very micaceous, only slightly weathered SCHIST
50'			END OF HOLE

000182

BCM

WELLS CR-13B, CR-14, CR-15

NO AVAILABLE WELL LOGS

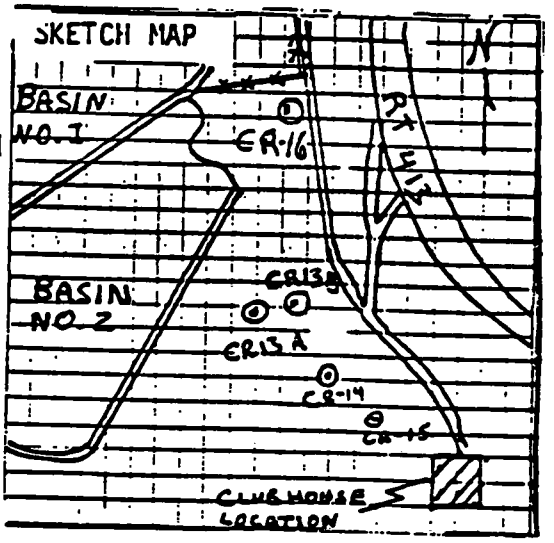
Betz·Converse·Murdoch·Inc. BCM

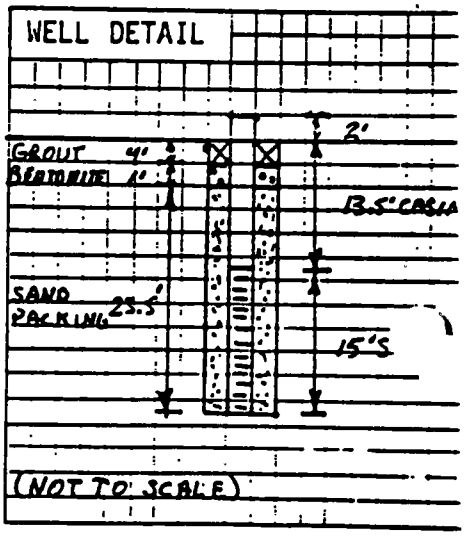
Drilling Log

Well Number CR-16

Client Rohm and Haas — Project No. 00-4061-02
Well Location North of the clubhouse, on dirt road running parallel to Route 413
Driller/Company Ken Kuterman/Engineering Drilling Company
Drilling Method Mud Rotary — Hole Diameter 8" — Date(s) Drilled 12/16/83
Sample Type Split Spoon — Sample Interval 5' — No. Samples Retained 6
Surface Elevation 8.01' — Casing Top Elevation 10.19' Steel — Total Well Depth 28.5'
Casing Material and Size 4" ID Schedule 40 PVC — Cased Interval(s) 0.0' - 13.5'
Grouting Type Portland Cement — Grouted Interval 0.0' - 5.0
Screening Material and Size 4" ID Sch 40 0.02" slotted PV — Screened Interval(s) 13.5' - 28.
Packing Material and Size Coarse, silica sand — Packed Interval 5.0' - 28.
Depth to Static Water 5.65' Steel — Date 2/13/84 — Approx Well Yield 15 gpm
Development Method Compressed Air — Development Time 1.5 hrs
Logged by: Paula A. Coppock

Comments 2.5" spoon
300 lb hammer
18" per spoon sample
Blows counted per 6"
Sand and gravel collapsed at 20'
Revert & Quik-gel used





Depth Scale	Sample	Spoon Blows	Description of Materials
0.0'-8.0'	5'	1-1-1/18"	Grey, medium grained SAND
8.0'-14.5'	10'	1-0-1/18"	Brown-grey CLAY
14.5'-30.0'	15'	14-12-8/18"	Grey-brown, medium grained, silty SAND with fine-coarse gravel
	20'	9-8-8/18"	
30.0'			End of hole
	25'	5-5-5/18"	
	30'	47-43-14/18"	

000184

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Drilling Log

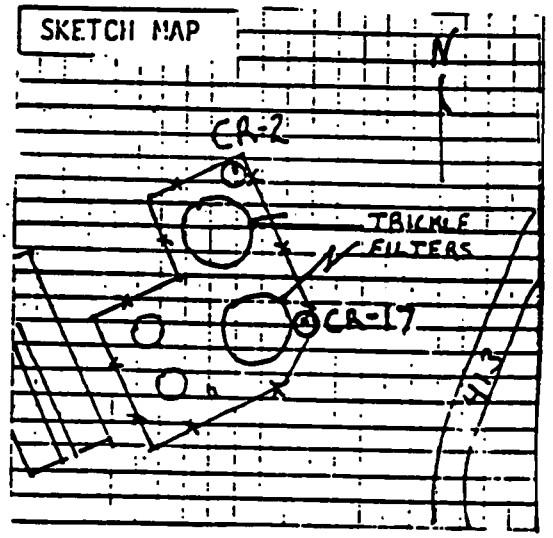
Well Number CR-17

Client Rohm and Haas
Project No. 00-4061-02
Well Location West of Route 413, next to Rohm and Haas's trickle filters inside the fe
Driller/Company Ken Kuterman/Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 8" Date(s) Drilled 12/19-20/83
Sample Type Split Spoon Sample Interval 5' No. Samples Retained 8
Surface Elevation 20.72' Casing Top Elevation 22.84' Steel Total Well Depth 29.5'
Casing Material and Size 4" ID Schedule 40 PVC Cased Interval(s) 0.0-9.5'
Grouting Type Portland Cement Grouted Interval 0.0-5.0'
Screening Material and Size 4" ID Sch 40 0.016" slotted PVC Screened Interval(s) 9.5-29.5'
Packing Material and Size Coarse, silica sand Packed Interval 5.0-29.5'
Depth to Static Water 13.08' Date 2/8/84 Approx Well Yield 5 gpm
Development Method Compressed Air Development Time 1 hour
Logged by: Paula A. Coppock

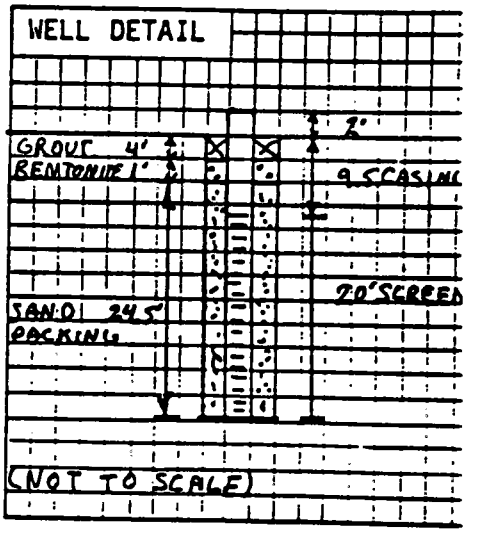
Comments

2.5" spoon
300 lb hammer
18" per spoon sample
Blows counted per 6"
First 6' continuous sampling
Revert+Quik-gel used

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0.0-4.0'	0-2'	13-6-4-3/2"	Brown SILT
	2-4'	14-2-7/2"	
4.0-13.0'	4-6'	7-10-9-5/2"	Multicolored, fine-medium grained GRAVEL and brown-
	10'	26-40-47/18"	gray sandy SILT and coarse SAND
13.0-20.0'	15'	14-13-20/18"	Brown, silty CLAY with fine-medium grained GRAVEL
			and coarse grained SAND
	20'	9-8-5/18"	
20.0-22.0'			Brown, coarse grained SAND with medium grained gravel
	25'	8-7-10/18"	
22.0'-25.0'			Brown, coarse grained silty SAND with brown, sandy
	30'	43-57-32/18"	silt and some fine grained gravel
25.0-26.0'			Black and brown coarse grained, silty SAND with fine
			grained gravel
26.0-30.0'			Multicolored, fine-coarse grained GRAVEL with some
			cobbles; coarse grained, silty brown SAND with some
30.0'			green clay
			End of hole

000185

Betz-Converse-Murdoch-Inc. BCM

Drilling Log

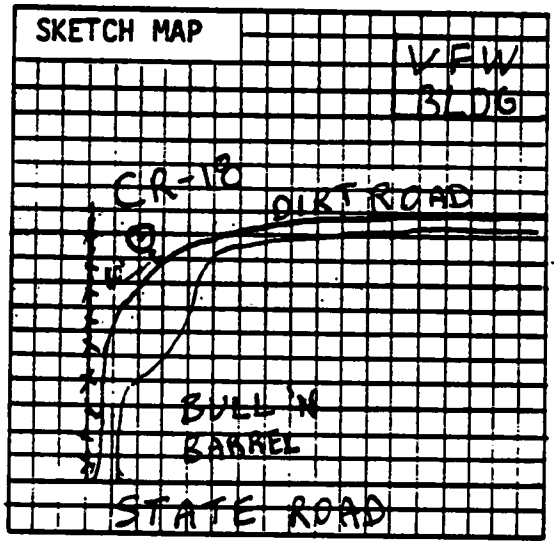
Well Number CR-18

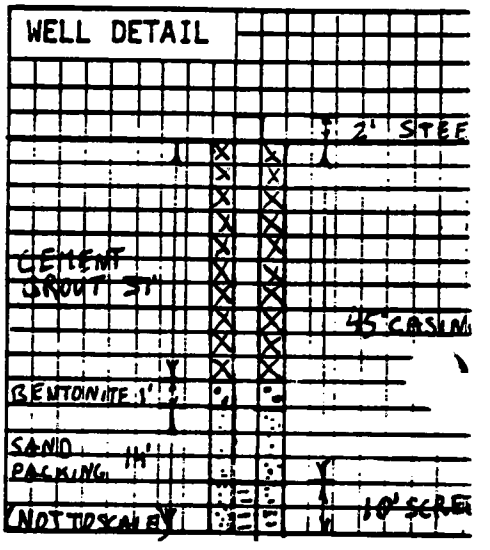
Client Rohm and Haas, Bristol, PA
Project No. 00-4061-0
Well Location In between VFW bldg. and Bulland Barrel Saloon, off of State Rd.
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary Hole Diameter 7 3/8" Date(s) Drilled 1/30/84
Sample Type Split Spoon Sample Interval 5' No. Samples Retained 13
Surface Elevation 29.19' SL Casing Top Elevation 31.24' Steel Total Well Depth 55'
Casing Material and Size Schedule 40 PVC 4"ID Cased Interval(s) 0-45'
Grouting Type Portland Cement Grouted Interval 0-33'
Screening Material and Size Sch 40 4"ID 0.016"slotted PVC Screened Interval(s) 45-55'
Packing Material and Size Coarse grained, silica sand Packed Interval 38-55'
Depth to Static Water 19.32' Steel Date 2/17/84 Approx Well Yield 20 gpm
Development Method Compressed Air Development Time 1 hr.
Logged by: Paula A.Coppock

Comments
300 lb. hammer
2-3" spoon

blows counted every 6"

weathered schist @ 55'





Depth Scale	Sample	Spoon Blows	Description of Materials
0-6'	5-7'	12,21,41,40	Brown, sandy SILT and fine-coarse GRAVEL, little maroon,
			silty, sandy clay, little angular, green gravel,
	10-12'	10,15,30,38	little white, coarse grained sand
6-8'	15-17'	10,22,22,22	Brown, sandy SILT, some fine- coarse gravel little maroo
			silt, sandy, clay, little angular, green gravel,
	20-22'	9,12,11,15	little white, coarse grained sand
8-15'	25-27'	12,34,24,28	Multicolored fine-coarse grained GRAVEL and brown sandy
			SILT
	30-32'	9,24,14,12	
15-22.5'			Brown, silty coarse grained SAND, some multicolored,
	35-37'	4,7,9,15	fine-medium grained gravel
22.5-26'	40-42'	8,10,7,10	Brown,silty SAND and multicolored fine-medium grained
			GRAVEL
	46-48'	10,21,33,45	
26-36'			Brown and black, coarse grained SAND, trace of gravel
2	50-52'	12,22,25,25	
36-44'	55-57'	15,9,9,9 NS	Layers at tan, red, and brown, medium grained SAND

000186

DRILLING LOG
Well CR-18

Depth Scale	Sample	Spoon Blows	Description of Materials
44-55'	57-59'	4,4,4,4	Brown,red, silty SAND, some medium grained gravel, little clay
	65-67'	3,9,7,8	
55-60'			Thin layers of green, red and yellow, micaceous CLAY
60-65'			Green micaceous CLAY, some weathered , white calcite

Betz-Converse-Murdoch-Inc. BCM

Drilling Log

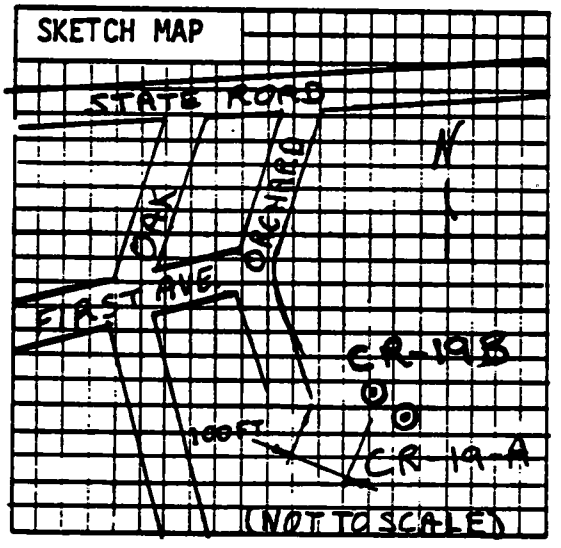
Well Number CR-19A

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Orchard Rd. dead end, 45° to the left, 100 ft. out, Croyden area
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary
Hole Diameter 7 3/8"
Date(s) Drilled 1/31/84
Sample Type Split Spoon
Sample Interval 5'
No. Samples Retained 8
Surface Elevation 10.18'SL
Casing Top Elevation 12.35'Steel
Total Well Depth 37'
Casing Material and Size Schedule 40 PVC 4"ID
Cased Interval(s) 0-27'
Grouting Type Portland Cement
Grouted Interval 0-25'
Screening Material and Size Sch 40 4"ID 0.016"slotted PVC
Screened Interval(s) 27-37'
Packing Material and Size Coarse grained, silica sand
Packed Interval 25-37'
Depth to Static Water 0.45' Steel
Date 2/17/84
Approx Well Yield 30 gpm
Development Method Compressed Air
Development Time 1 hr.
Logged by: Paula Coppock

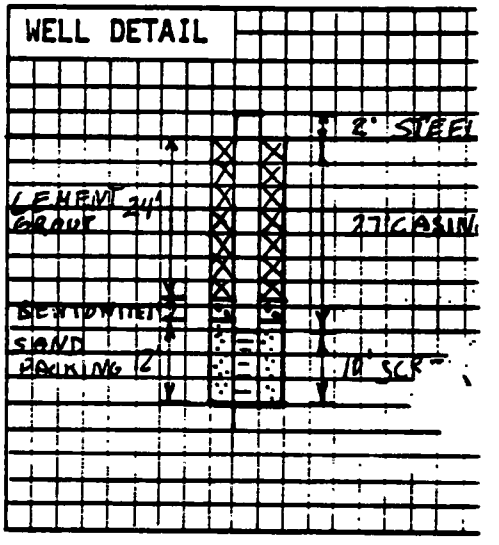
Comments

Water is clear

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-3'	5-7'	4,6,6,5	Brown SILT and organic debris
3-8'	10-12'	9,22,23,31	Brown-red, silty SAND, some fine grained multicolored gravel
	17-19'	3,2,3,4	
8-12'			Brown-red, silty SAND, some fine-medium grained gravel,
	25-27'	19,32,50 refusal	trace yellow silt, trace black sand
	30-32'	5,9,10,21	
12-14'			Brown-red, silty SAND, little fine-medium grained gravel
	35-37'	22,21,19,15	
14-15'	40-42'	4,7,9,20	Brown-red, silty SAND, some fine-medium grained gravel
	45-47'	4,33,13,23	
15-17'			Brown-orange, silty, sandy, CLAY little fine grained gravel
17-22'			Brown-orange, silty CLAY, trace of biotite
22-23'			Brown-orange CLAY, some fine grained gravel

DRILLING LOG
Well CR-19A

Depth Scale	Sample	Spoon Blows	Description of Materials
23-37'			Green, medium grained SAND and brown-orange silty CLAY and fine-coarse grained GRAVEL, some brown-orange-red, coarse grained sand
37-45'			Green, micaceous CLAY
45'			END OF HOLE

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Drilling Log

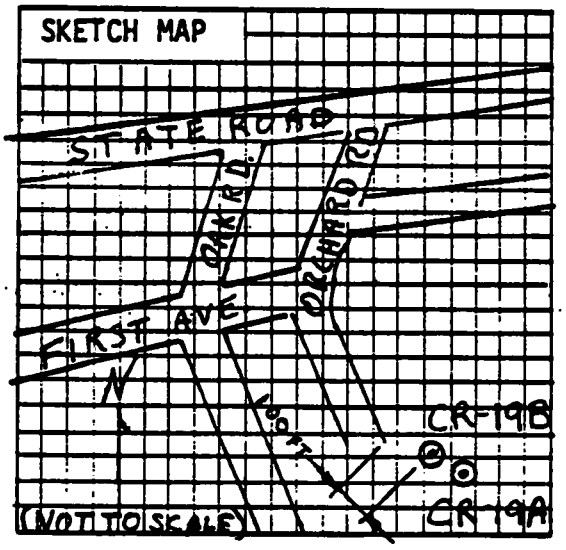
Well Number CR-19B

Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location Orchard Road dead end, 45 to the left, 100 feet out, Croyden area
Driller/Company Ken Kutania / Engineering Drilling Co.
Drilling Method Mud rotary — Hole Diameter 7 3/8" — Date(s) Drilled 2/6/84
Sample Type Split spoon — Sample Interval Continuous — No. Samples Retained None
Surface Elevation 10.26'SI — Casing Top Elevation 11.98' Steel — Total Well Depth 15'
Casing Material and Size Schedule 40 PVC 4"ID — Cased Interval(s) 0-10'
Grouting Type Portland Cement — Grouted Interval 0-4'
Screening Material and Size Sch 40 4"ID 0.016"slotted PVC — Screened Interval(s) 10-15'
Packing Material and Size Coarse grained, silica sand — Packed Interval 4-15'
Depth to Static Water 1.85' Steel — Date 2/17/84 — Approx Well Yield 20 gpm
Development Method Compressed Air — Development Time .25 hr.
Logged by: Paula A. Coppock

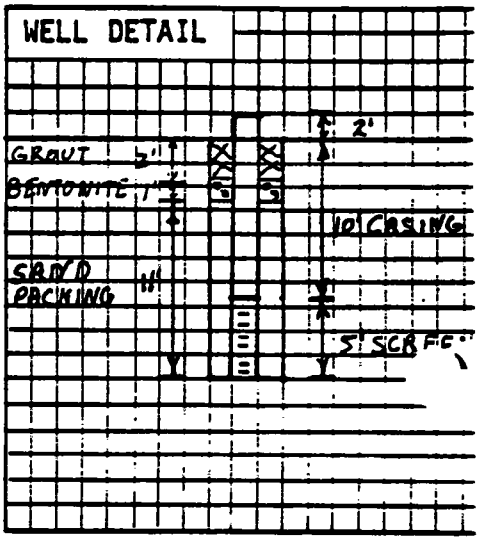
Comments

Revert used

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-2'			Brown sandy SILT, some roots
2-8'			Fine-coarse grained SAND, somefine-coarse grained gravel. Sand is mostly coarse grained and rounded.
8-15'			
15'			Brown, silty, sandy CLAY

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Drilling Log

Well Number CR20A

Client Rohm and Haas, Bristol, PA
Well Location Croydan plant 300 feet SE of CR4A&B, 12' west of fence line
Driller/Company Ken Kuterman/Engineering Drilling
Drilling Method Mud Rotary Hole Diameter 7 3/8"
Sample Type Split spoon Sample Interval 5 feet
Surface Elevation 18.49' Casing Top Elevation 21.39 Steel
Casing Material and Size Schedule 40 PVC 4" ID
Grouting Type Portland Cement and Bentonite
Screening Material and Size 4" ID 0.16 slotted PVC
Packing Material and Size Coarse grained silica sand No.3
Depth to Static Water 10.16 Date 2/17/84
Development Method Compressed Air
Logged by: John Fowler / Sarah Hetznecker

Project No. 00-4061-02
Date(s) Drilled 2/7-9/84
No. Samples Retained 12
Total Well Depth 38'
Cased Interval(s) 0 - 28'
Grouted Interval 0 - 27'
Screened Interval(s) 28 - 38'
Packed Interval 27 - 38'
Approx Well Yield 8 gpm
Development Time 1 hr.

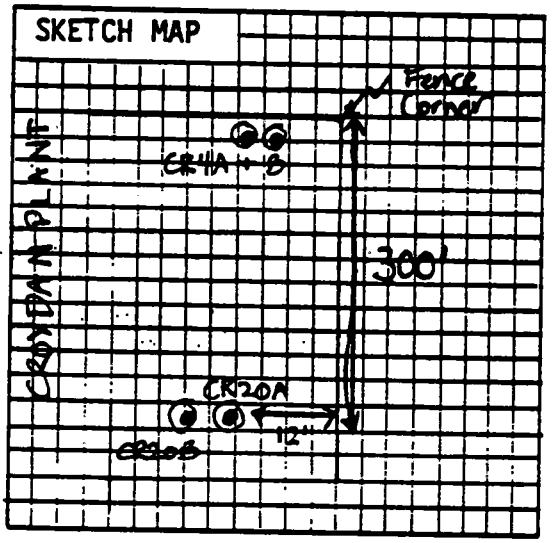
Comments HNU background levels less than 1 revert mud used 4-1/2" roller bit 0 - 60'

Boring backfilled with bentonite pellets 61' to 45'

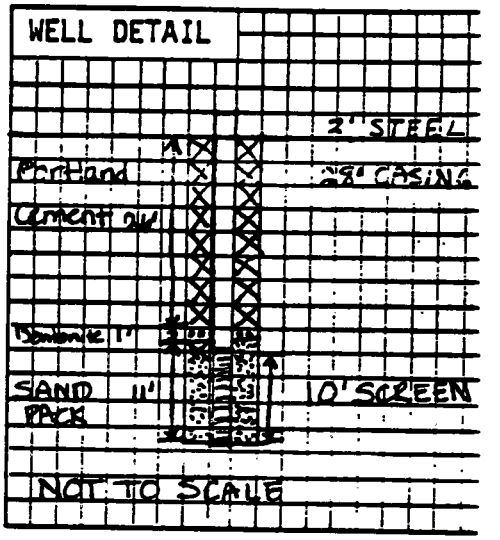
Reamed to 45'
7' fall in
Well depth 38'

Strong odor during well development

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0'-4'			Moist, brown SILT trace sand
4'-9'	1(5-7')	16,18,18,	Moist brown silty sandy GRAVEL. Gravel red brown and white
		17	rounded 3/4" to greater than 1.5" diameter
9'-12'	2(10-12')	7,9,7,15	Moist brown silty SAND trace gravel
12'-15'			Moist brown silty sandy GRAVEL, gravel content increasing
			down hole
15'-20'	3(15-17')	7,11,12,16	Wet red brown silty sandy GRAVEL 1/2" - 1/4" rounded Qtz &
			ss, white, red-brown, grey <3" diameter gravel
20'-25'	4(20-22')	40,50,42,	Moist brown silty SAND with coarse gravel with discontinuou
		56	black staining, no chemical odor or sheen in mud pan HNU
			reading at Pan + 1
25'-30'	5(25-27')	29,32,11,1	Moist brown silty sandy GRAVEL
30'-35'	6(30-32')	5,9,8,8	Moist red-brown and gray silty SAND and coarse GRAVEL 1/4"
			layer of black staining 31'-31-1/4'
35'-45'	7(35-37')	4,4,6,7	Moist tan, yellow brown and gray layered CLAY SAND and SILT
	8(37-39')	3,2,3,4	medium grained subangular quartz sand interlayered with
			clay and silt. Trace angular quartz fragments to 1/4"
			diameter
45-50'	9(45-47')	2,2,4,5	Moist orange tan silty clayey sandy SAPROLITE micaceous wit
			medium grained quartz sand retie structure
50-55'	10(50-52')	3,3,6,7	Moist sandy CLAY and clayey SAND with layers of medium
			grained quartz sand and mica (SAPROLITE)

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DRILLING LOG
Well CR-20A

page ___ of ___

Depth Scale	Sample	Spoon Blows	Description of Materials
55-60'	(55-57')11	4,5,8,9	Moist gray silty sandy micaceous SAPROLITE relic layering and highly micaceous zones to 1" thick
60-62'	12	9,7,7,6	Dark green, gray, black and silver highly micaceous SAPROLITE relic structure
62'			End of hole

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Drilling Log

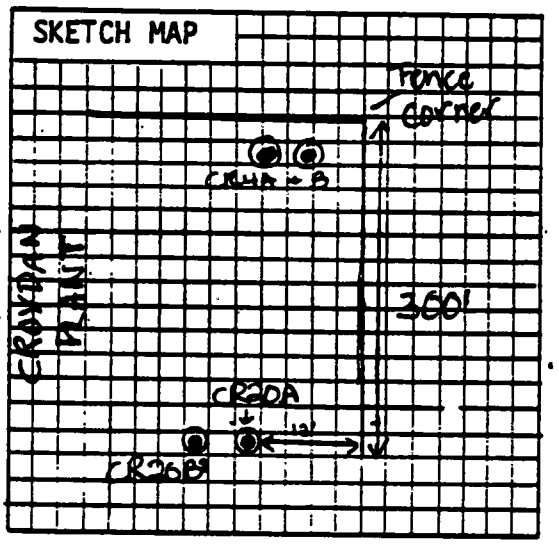
Well Number CR20B

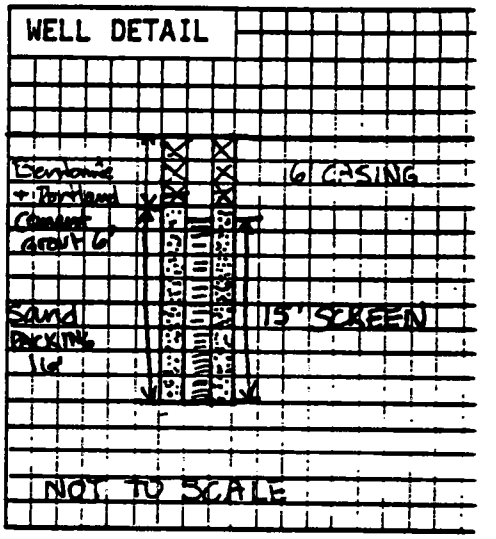
Client Rohm and Haas Bristol, PA — Project No. 00-4061-02
Well Location Croydan Plant next to CR20A
Driller/Company Ken Kuterman/Engineering Drilling
Drilling Method Mud Rotary — Hole Diameter 7 3/8" — Date(s) Drilled 02/09/84
Sample Type Cuttings — Sample Interval Continuous — No. Samples Retained None
Surface Elevation 18.47' — Casing Top Elevation 21.43' Steel — Total Well Depth 22'
Casing Material and Size Schedule 40 PVC 4" ID — Cased Interval(s) 0' - 6'
Grouting Type Portland cement and bentonite — Grouted Interval 0' - 6'
Screening Material and Size 4" ID 0.16 slotted PVC — Screened Interval(s) 7' - 22'
Packing Material and Size Coarse grained silica sand No.3 — Packed Interval 6' - 22'
Depth to Static Water 10.21' Steel — Date 2/17/84 — Approx Well Yield 20 gpm
Development Method Compressed Air — Development Time 1 hour
Logged by: Sarah M. Hetznecker

Comments HNU background levels less than 1

Split spoon samples from adjacent well CR20A used to construct lithologic log

Strong odor during well development





Depth Scale	Sample	Spoon Blows	Description of Materials
0'- 4'			Moist red-brown SILT, trace sand
4'- 9'			Moist brown silty sandy GRAVEL 3/4" to 1-1/2" in diameter,
			large pieces of quartz and sandstone, rounded to subangular
9'-13'			Red-brown silty SAND trace gravel
13'-17'			Moist red-brown silty SAND and GRAVEL large pieces of
			quartz and sandstone up to 2" in diameter
17'-22'			Red-brown silty SAND and GRAVEL well rounded with 1/4" to
			1/2" diameter pieces of quartz
23'			End of hole

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DRILLING LOG
Well CR-21 A

Depth Scale	Sample	Spoon Blows	Description of Materials
29-35'			Brown-maroon CLAY, some maroon silt, little maroon silt
35-38'			Brown, sandy, SILT, some fine grained gravel
38-51.5'	50-52	7,6,7,9	Orange, micaceous, clayey SILT, some fine grained quartz gravel
51.5-56'	55-57'	5,5,11,13	White micaceous CLAY
56-60'			Orange, sandy CLAY, white micaceous CLAY, some coarse grained orange sand
60-67'	60-62	8,7,7,9	Green, micaceous CLAY some white clay, little angular white, fine grained gravel
	65-67	15,11,17,27	
67'			END HOLE

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Drilling Log

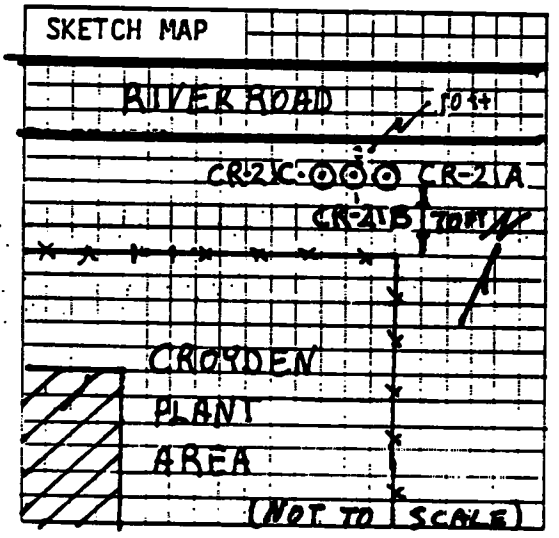
Well Number CR-21A

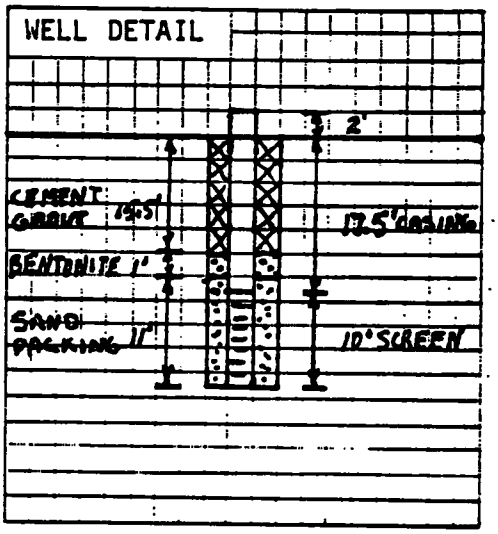
Client Rohm & Haas — Project No. 00-4061-02
Well Location Northeast corner of Croyden Plant, outside of fence, on River Road.
Driller/Company Ken Kuternia / Engineering Drilling Company
Drilling Method Mud Rotary — Hole Diameter 7 3/8" — Date(s) Drilled 2-17-84 2-20-84
Sample Type Split Spoon — Sample Interval @50' every 5' — No. Samples Retained 4
Surface Elevation 14.19' — Casing Top Elevation 16.81' Steel — Total Well Depth 27.5'
Casing Material and Size 4" ID SCH 40 PVC — Cased Interval(s) 0-17.5'
Grouting Type Portland Cement — Grouted Interval 0-16.5'
Screening Material and Size 4" ID SCH 40 .016 slotted PVC — Screened Interval(s) 17.5-27.5'
Packing Material and Size coarse grained, silica sand — Packed Interval 16.5-27.5'
Depth to Static Water 5.29' Steel — Date 2/24/84 — Approx Well Yield 16 gpm
Development Method Compressed Air — Development Time 3 hrs
Logged by: Paula A. Coppock

Comments
6" steel casing 0-25' used to sample - pulled afterwards

pellets filled in below to 34'

No readings on HNV





Depth Scale	Sample	Spoon Blows	Description of Materials
0-3.5'			Brown, sandy SILT
3.5-4'			Brown, sandy, SILT some black sand, some fine-medium grained gravel
4-14.5'			Brown-orange silty SAND and fine-coarse grained GRAVEL
14.5-16'			COBBLES, and red, green and white, fine-coarse grained GRAVEL, some coarse grained sand
16-20'			Fine-coarse grained GRAVEL, little red silty clay, little brown silty clay with biotite flakes
20-22'			Green CLAY, trace of fine grained gravel, little brown clay
22-26'			Fine-coarse grained silty SAND, and fine-coaarse grained GRAVEL, some brown and maroon clay
26-29'			Orange, silty SAND, some black and silica sand, some orange sandy clay

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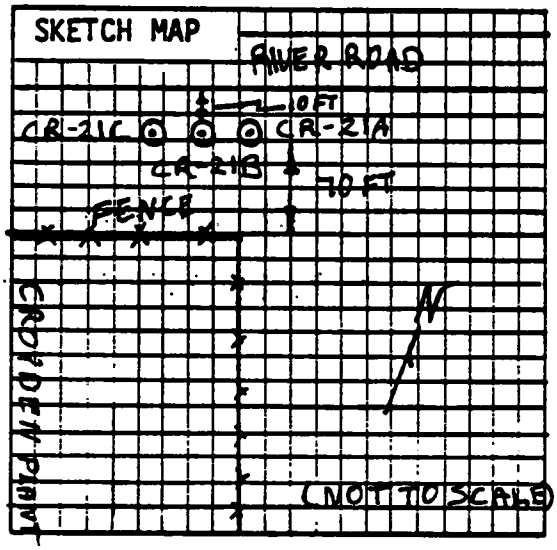
Drilling Log

Well Number CR-21B

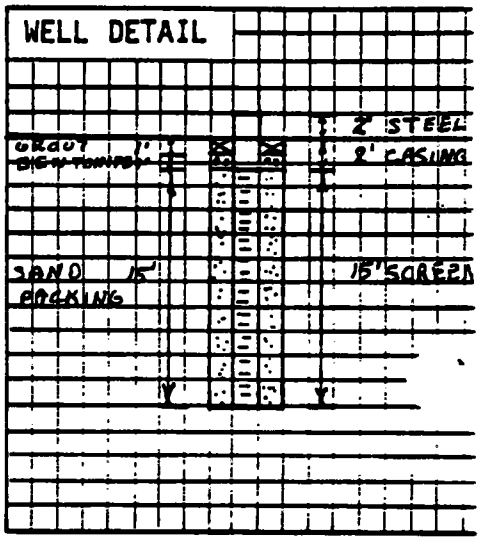
Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Northeast of Croyden Plant, outside fence, next to River road
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary
Hole Diameter 7 3/8"
Date(s) Drilled 2/10/84
Sample Type Split Spoon
Sample Interval 7 7/8"
No. Samples Retained 3
Surface Elevation 14.36'SL
Casing Top Elevation 16.82' Steel
Total Well Depth 17'
Casing Material and Size Schedule 40 PVC 4"ID
Cased Interval(s) 0-2'
Grouting Type Portland Cement
Grouted Interval 0-2'
Screening Material and Size Sch 40 4"ID 0.016"slotted PVC
Screened Interval(s) 2-17'
Packing Material and Size Coarse grained, silica sand
Packed Interval 2-17'
Depth to Static Water 4.83 Steel
Date 2/24/84
Approx Well Yield 20 gpm
Development Method Compressed Air
Development Time 1hr.
Logged by: Paula A. Coppock

Comments
300 lb. hammer
3" spoon

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-3'	5-7'	8,8,9,22	Brown, silty CLAY - clayey SILT
3-8'	10-12'	20,18,18,21	Brown, medium grained, silty SAND, trace of fine-coarse grained gravel
	15-17'	10,8,9,9	
8-9.5'			Brown, sandy SILT and fine-coarse grained GRAVEL
9.5-13'			Brown, silty, medium-coarse grained SAND and fine-coarse grained GRAVEL
13-16'			Red-brown-maroon SILT and light green, medium grained SAND some red-brown, coarse grained GRAVEL
16-18'			Brown, sandy SILT, and green, medium grained SAND, some red-brown SILT
18'			END HOLE

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Drilling Log

Well Number CR-21C

Client Rohm and Haas, Bristol, Pa
Project No. 00-4061-02
Well Location Northeast corner of Croyden Plant outside fence on River Road
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary
Hole Diameter 7 3/8"
Date(s) Drilled 2/13/34-2/14/84
Sample Type Split Spoon
Sample Interval 5' @ 20'
No. Samples Retained 6 2/16/
Surface Elevation 14.54'
Casing Top Elevation 16.88' Steel
Total Well Depth 38'
Casing Material and Size Schedule 40 PVC 4" ID
Cased Interval(s) 0-28'
Grouting Type Portland Cement
Grouted Interval 0-26'
Screening Material and Size Sch 40 4" ID 0.016"slotted PVC
Screened Interval(s) 28-38'
Packing Material and Size Coarse grained, silica sand
Packed Interval 26-38'
Depth to Static Water 5.29 Steel
Date 2/24/84
Approx Well Yield 20 gpm
Development Method Compressed Air
Development Time .5 hr.
Logged by: Paula Coppock

Comments
foam on par @ 35'

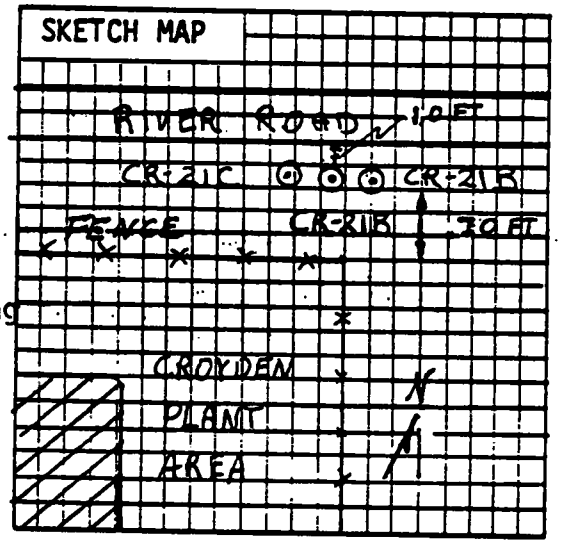
300 lb. hammer

2" - 3" spoons

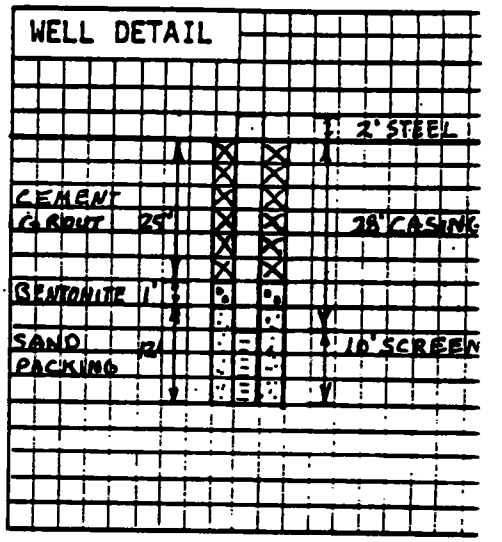
6" steel casing to 25' to keep boulders from crushing PVC

no readings on HNU

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-3'	20'	NS	Brown, sandy SILT, sand is fine grained
	21'	7,9,7,8	
3'-7'			Brown, sandy SILT, some fine-medium grained gravel
	25'	4,5,11,6	NS
7-10'	27'	8,9,7,9	Brown, sandy SILT, some fine-coarse gravel. The gravel is well rounded and the sand is fine grained.
	35'	16,25,14,16	
10-25.5'			Brown, silty SAND, some fine-coarse gravel, some green-blue medium grained sand.
	40'	4,5,5,3	
25.5-32'	45'	14,12,18,25	Brown-orange, silty, medium grained SAND, trace of fine gravel
32-38'			Brown-orange silty, medium grained SAND, some fine-coarse grained gravel. Only colors suggest schist here - no clays except bits of weathered gravel
38-45'			Green-white-reddish brown, micaceous, sandy clays, sand is medium grained.
45'			END HOLE

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Drilling Log

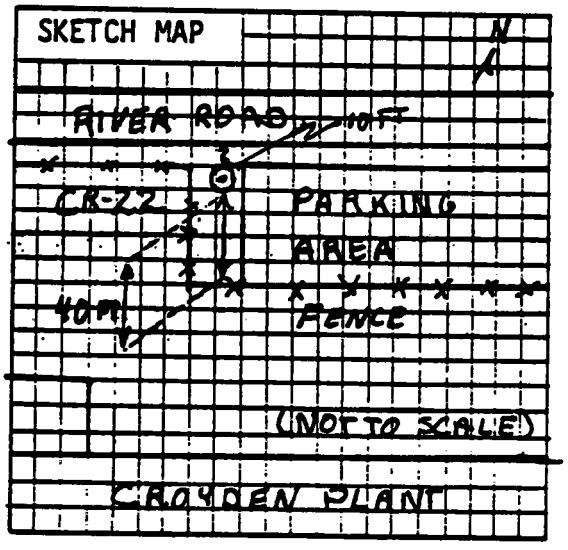
Well Number CR-22

Client Rohm and Haas — Project No. 00-4061-02
Well Location North of Croyden Plant, west side of parking lot, next to River Rd.
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary — Hole Diameter 7 3/8" — Date(s) Drilled 2/21/84
Sample Type Split Spoon — Sample Interval 5' — No. Samples Retained 6
Surface Elevation 14.07' — Casing Top Elevation ~~16.52' Steel~~ — Total Well Depth 18'
Casing Material and Size 4" ID Sch 40 PVC — Cased Interval(s) 0-8'
Grouting Type Portland Cement — Grouted Interval 0-5'
Screening Material and Size 4" ID Sch 40 .016 slotted PVC — Screened Interval(s) 8-18'
Packing Material and Size Coarse grained, silica sand — Packed Interval 5-18'
Depth to Static Water 4.58' Steel — Date 2/24/84 — Approx Well Yield 30 gpm
Development Method Compressed Air — Development Time .75 hr.
Logged by: Paula A. Coppock

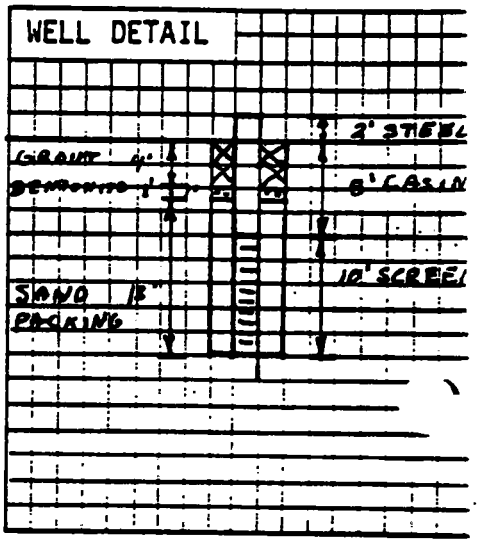
Comments

No readings on HNU

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-4'			Brown, clayey SILT, trace fine grained gravel
4-15'	5-7'	10,5,2,10	Brown, silty, coarse grained SAND and fine-coarse grained
	10-12'	14,21,14,14	gravel, gravel is mostly coarse grained.
15-17'	13-17'	20,12,9,4	Green, fine-medium grained SAND, brown, sandy SILT, little pink silt, some silica, coarse grained sand, some fine coarse grained gravel
17-18'			Brown silty SAND, some fine-coarse grained gravel
18-27'	22-24'	3,6,6,8	White-green, micaceous CLAY, little fine grained silica gravel, little coarse grained, yellow-brown, silica sand
27-29'			Yellow-brown CLAY interbedded with some white-green clay
29-35'	30-32'	4,5,5,7	Green, micaceous, foliated CLAY
37'	35-37'	4,4,4,8	END HOLE

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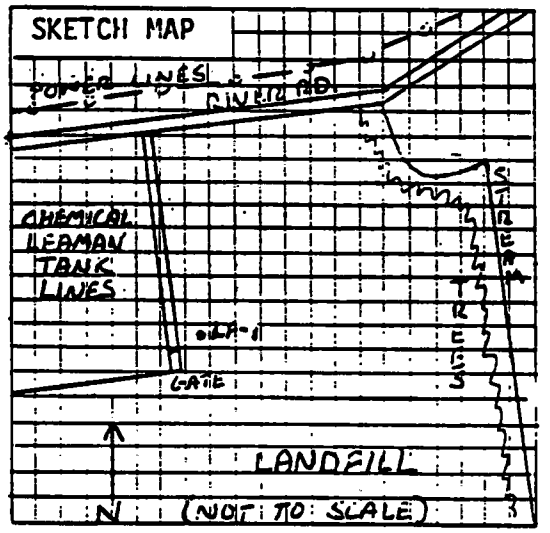
Drilling Log

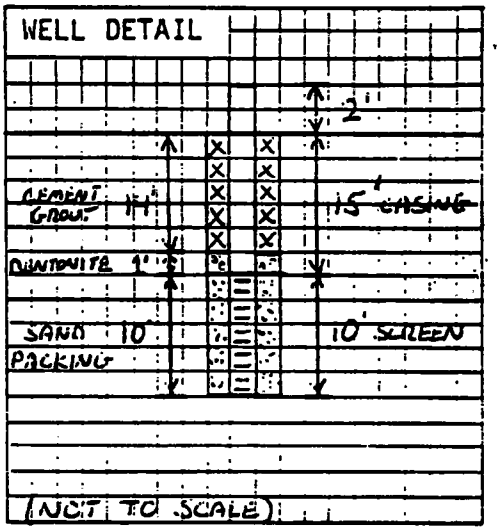
Well Number LF-1

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Just inside landfill west gate near Chemical Leaman lot
Driller/Company Engineering Drilling
Drilling Method mud rotary Hole Diameter 8" Date(s) Drilled 7/1/83
Sample Type Cuttings Sample Interval 5' No. Samples Retained None
Surface Elevation 20.07' SL Casing Top Elevation 22.96' Steel Total Well Depth 25'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0-15'
Grouting Type Portland Cement Grouted Interval 0-14'
Screening Material and Size 4" ID 0.02 slotted PVC Screened Interval(s) 15-25'
Packing Material and Size Coarse grained silica sand Packed Interval 14-25'
Depth to Static Water 12.04' Steel Date 7/5/83 Approx Well Yield 15-20 gpm
Development Method Compressed air Development Time 1.0 hr.
Logged by: Richard Sacks

Comments Revert and super GELX used

City water used for drilling





Depth Scale	Sample	Spoon Blows	Description of Materials
0-7'	5'		Dark gray clay, with fine angular gravel, some cobbles and refuse
7-12'	10'		Coarse sand and gravel, gravel is fairly well rounded dark gray, oily odor, refuse present, clay matrix
12-16'	15'		Some gravel, fairly well rounded, in a gray to black caly ooze matrix, oily odor and refuse present
16-20'	20'		Medium grained sand consisting mostly of quartz grains fairly well sorted, no matrix, oily odor slightly weaker than above
20-25	25'		Medium to coarse grained sand, fairly well rounded, oily odor present

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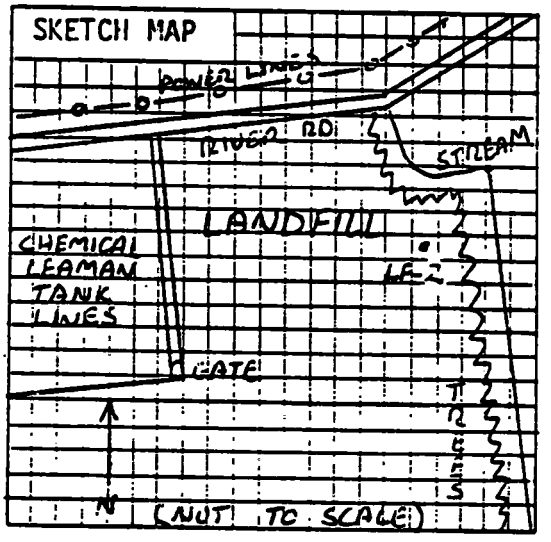
Drilling Log

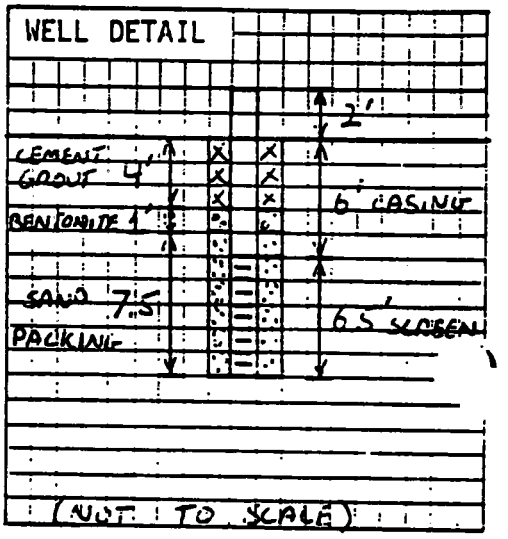
Well Number LF-2

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location At NE corner of landfill, near tree row on west bank of Hog Run Creek
Driller/Company Engineering Drilling
Drilling Method Mud rotary Hole Diameter 8" Date(s) Drilled 7/1/83
Sample Type Cuttings Sample Interval 5' No. Samples Retained None
Surface Elevation 14.40'SL Casing Top Elevation 17.95'Steel Total Well Depth 12.5'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0-6'
Grouting Type Portland Cement Grouted Interval 0-4'
Screening Material and Size .4" ID 0.02 slotted PVC Screened Interval(s) 6-12.5'
Packing Material and Size Coarse grained, silica sand Packed Interval 4-12.5'
Depth to Static Water 7.40' Steel Date 7/5/83 Approx Well Yield 15-20 gpm
Development Method Compressed air Development Time 1.0 hrs
Logged by: Alan Robinson

Comments Revert and super GELX used

City water used for drilling





Depth Scale	Sample	Spoon Blows	Description of Materials
0'-5.5"			Black and white fill with white plastic pellets
5.5"-8.5"			Clayey with a black man made fibrous material very strong odor, like decaying organic sludge piece of wire found at 8'
8.5" - 10"			Matrix becomes darker, still plastic pellets and other man made debris
			Tough drilling, must be going through a plexiglass sheet
10'-12.5'			Dark sand, natural, schistose material
12.5'			Dark gray clay, becoming dark brown lower
12.5'			End of Hole

000200

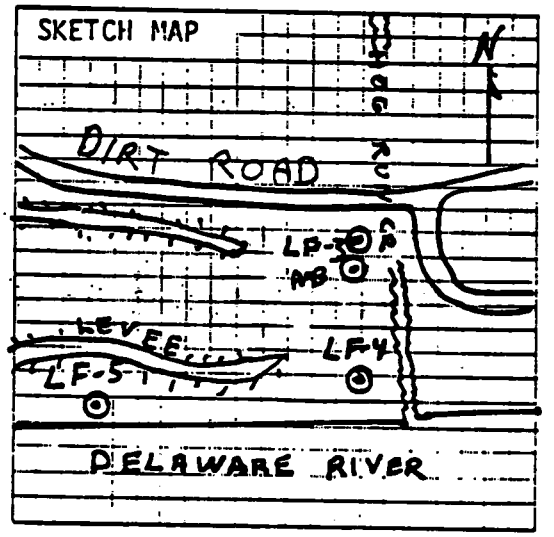
Betz·Converse·Murdoch·Inc. BCM

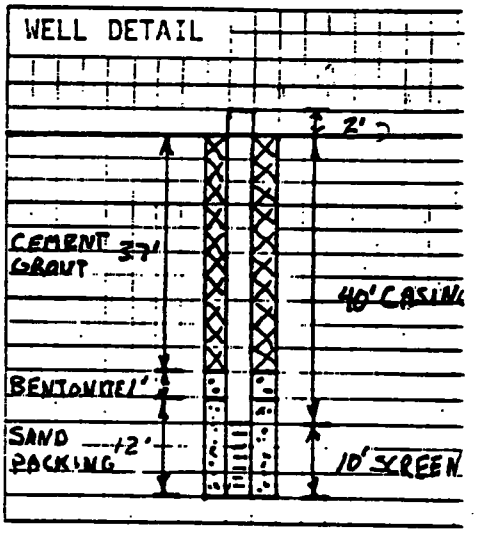
Drilling Log

Well Number LF-3A

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location West of Hog Run Creek and Basin #3 in Landfill.
Driller/Company Calvin and Tom/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Mud Rotary Hole Diameter 8"
Date(s) Drilled 10-18-83
Sample Type Cuttings Sample Interval Continuous
No. Samples Retained None
Surface Elevation 19.03' SL Casing Top Elevation 21.49'
Total Well Depth 50'
Casing Material and Size Sch 40 PVC 4" ID Steel
Cased Interval(s) 0-40'
Grouting Type Portland Cement
Grouted Interval 0-38'
Screening Material and Size 4" ID 0.01" Slotted PVC
Screened Interval(s) 40-50'
Packing Material and Size Coarse grained, silica sand
Packed Interval 38-50'
Depth to Static Water 18.73' Steel Date 11-3-83
Approx Well Yield 30-40 gpm
Development Method Compressed Air.
Development Time 1 hr.
Logged by: R. E. Sacks

Comments
After breaking surface, OVA 15 ppm PID-5 ppm
OVA 7-10 ppm @18-31
OVA 10 ppm @50'





Depth Scale	Sample	Spoon Blows	Description of Materials
0'-8'			Light brown-tan silty, fine-coarse sand - some fine gravel and organic debris.
8'-18'			Light brown-tan, fine-coarse sand traces of silt and clay, some fine gravel, biotite.
18'-31'			Gray, sandy, micaceous clay - large muscovite and biotite flakes, less sandy downward.
			Black clay mixed with gray clay @ 20'-25' - some red clay also.
31'-40'			Coarse sand and well-rounded multi-colored gravel, white clay, oily sheen on water @ 28' more oil at 40'.
40'-50'			Multi-colored, coarse-grained sand.
50'-51'			Multi colored, medium-coarse grained sand.
51'-67'			Grayish-white, micaceous clay.
67'-76'			Angular calcite, and quartz, biotite, muscovite (Schist)
76'			End of hole.

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1600 Broadway, Westville, New Jersey 08093

Testing -:- Inspection -:- Asphalt -:- Chemical Analysis -:- Test Borings -:- Foundations -:- Soils -:- Water -:- Steel

CLIENT Rohm and Haas Delaware Valley, Inc. DATE December 19, 1979

PROJECT Plant Control - Bristol, PA PO#003-02659 LAB. NO. 43877

Boring No. LF-3B Sheet No. 1 of 1 Ground Surface Elev. *

Ground Water Data			
Depth	Hour	Date	Hrs. After Completion
16'	12/7/79	Comp. of Hole	

A – Method of Advancing Boring	Depth
Rotary Method	0 to 26.5
	to
	to

Depth	A	Sample No.	Sample Depth	N	Soil Classification	Remarks
					*Exact boring locations and ground surface elevations were established and determined by client.	
15			0-16'		Damp Brown M/F Sand Trace Silt	16'
20			16-20'		Wet Brown C/F Sand Some M/F Gravel	20'
25			20-26.5'		Wet Brown Silty F/Sand	26.5'
					Auger Boring Completed at 26.5 feet below existing grade.	

Monitoring Well No. 6 Information

Water First Encountered	16 feet
Soil Boring Completed	26.5 feet
Well Point Set	26 feet
Pumping Rate	5 GPM
Draw Down	9.5 feet
**Static Water Level	16 feet

**Water Level Follows Tide of Delaware River.

S – 2" O. D. Split Spoon Sample
U – Undisturbed Sample, 3" Diameter
— Core Drilling
N – Standard Penetration Resistance per 6" (140# hammer, 30" drop)
N.R – No Recovery

000202

Driller Jay Freck

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Testing -:- Inspection -:- Asphalt -:- Chemical Analysis -:- Test Borings -:- Foundations -:- Soils -:- Water -:- Steel

CLIENT Rohm and Haas Delaware Valley, Inc. DATE December 19, 1979

PROJECT Plant Control - Bristol, PA PO#003-02659 LAB. NO. 43877

Boring No. LF-4 Sheet No. 1 of 1 Ground Surface Elev. *

Ground Water Data			
Depth	Hour	Date	Hrs. After Completion
11'	12/7/79		Comp. of Hole

A – Method of Advancing Boring	Depth
Rotary Method	0 to 21.
	to
	to

Depth	A	Sample No.	Sample Depth	Sample N	Soil Classification	Remarks
5			0-7'		Brown C/F Sand Trace Silt	7'
10			7-11'		Brown M/F Sand Some Silt	11'
15						
20			11-21.5'		Brown C/F Sand Wet Some C/F Gravel	21.5'
					Auger Boring Completed at 21.5 feet below existing grade.	
25					Monitoring Well No. 7 Information	
					Water First Encountered ——— 11 feet.	
					Soil Boring Completed ——— 21.5 feet	
					Well Point Set ——— 21 feet	
30					Pumping Rate ——— 6 GPM	
					Draw Down ——— 8.5 feet	
					**Static Water Level ——— 11.5 feet	
					**Water Level Follows the Tide of the Delaware River	
35					*Exact boring locations and ground surface elevations were established and determined by client.	
40						

S – 2" O. D. Split Spoon Sample
U – Undisturbed Sample, 3" Diameter
— Core Drilling
N – Standard Penetration Resistance per 6" (140# hammer, 30" drop)
N.R – No Recovery

Driller Jay Frock

000203

CRAIG TESTING LABORATORIES, INC.

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1600 Broadway, Westville, New Jersey 08093

Testing -:- Inspection -:- Asphalt -:- Chemical Analysis -:- Test Borings -:- Foundations -:- Soils -:- Water -:- Steel

CLIENT Rohm and Haas Delaware Valley, Inc. DATE December 19, 1979

PROJECT Plant Control - Bristol, PA PO#003-02659 LAB. NO. 43877

Boring No. LF-5 Sheet No. 1 of 1 Ground Surface Elev. *

Ground Water Data			
Depth	Hour	Date	Hrs. After Completion
15'	12/11/79	Comp. of Hole	

A — Method of Advancing Boring	Depth
Rotary Method	0 to 25.5'
	to
	to

Depth	A	Sample No.	Sample Depth	N	Soil Classification	Remarks
			0-13'		Brown Damp C/F Sand Some M/F Gravel	13'
			13-17'		Brown Silty M/F Sand	17'
			17-25.5'		Brown Wet C/F Sand and C/F Gravel	25.5'
					Auger Boring Completed at 21.5 feet below existing grade.	

5 10 15 20 25 30 35 40

Monitoring Well No. 8 Information

Water First Encountered	15 feet
Soil Boring Completed	25.5 feet
Well Point Set	25 feet
Pumping Rate	6 GPM
Draw Down	8 feet
**Static Water Level	15 feet

**Water Levels Follows Tide of Delaware River

*Exact boring locations and ground surface elevations were established and determined by client.

S — 2" O. D. Split Spoon Sample
U — Undisturbed Sample, 3" Diameter
— Core Drilling
N — Standard Penetration Resistance per 6" (140# hammer, 30" drop)
N.R — No Recovery

000204

Driller Jay Freck

Betz-Converse-Murdoch-Inc. BCM

Drilling Log

Well Number LF-6A

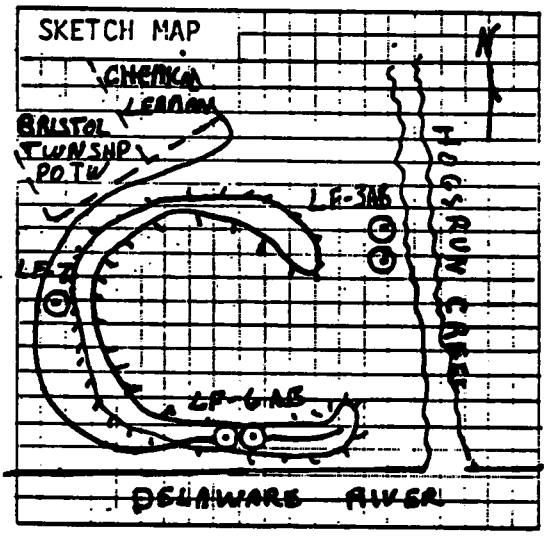
Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Southwest corner of landfill on levee, on River Bank
Driller/Company Ken/Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 7 3/8" Date(s) Drilled 10-24-83
Sample Type Split spoon Sample Interval 5' No. Samples Retained 12
Surface Elevation 28.90 SL Casing Top Elevation 31.40 Steel Total Well Depth 55'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0-45'
Grouting Type Portland Cement Grouted Interval 0-42'
Screening Material and Size 4" ID 0.01" Slotted PVC Screened Interval(s) 45-55'
Packing Material and Size Coarse, silica sand Packed Interval 42-55'
Depth to Static Water 32.06' Steel Date 11-4-83 Approx Well Yield 38 gpm
Development Method Compressed air Development Time 0.75 hrs.
Logged by: R. E. Sacks

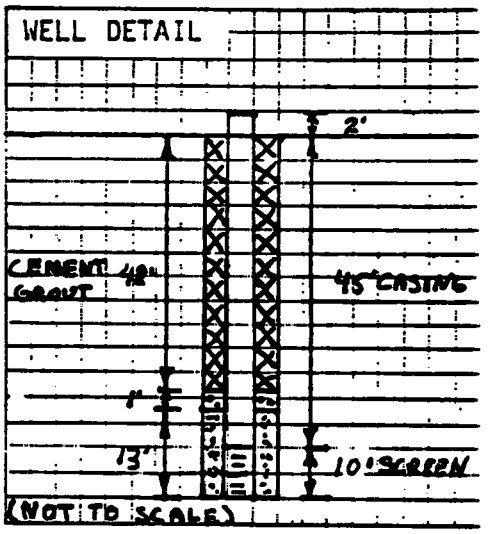
Comments
Revert used.

Blow counts for each 6" of penetration.

Water slightly foamy upon blowout.

Shelby tube taken at bottom - only yielded 3-4" sample.





Depth Scale	Sample	Spoon Blows	Description of Materials
0-18'	5'	7, 13, 15	Brown, gravelly, cobbly, fine-medium grained sand.
	10' (NS)	9, 12, 22	
	15'	5, 20, 14	
18-21'	20'	3, 5, 4	Maroon, fine grained sand and silt with plant debris.
21-28'	25'	20, 20, 15	Maroon-gray, fine-medium sand with some white micaceous clay, cobbles
28-33'	30'	3, 3, 4	Black. silt with some rounded, coarse gravel.
33-40.5	35'	2, 1, 2	Greenish-black, silty, clay with organic debris, some rounded, coarse gravel.
40.5-48	40'	2, 11, 8	Medium-coarse sand, some well-rounded, coarse gravel.
	45'	14, 13, 15	
48-52'	50'	13, 13, 10	Green, fine-medium sand.
52-60'	55'	11, 11, 7	Greenish-black, fine-coarse sand - some gravel.
60-65'	60'	18, 16, 18	Weathered schist.
65'			End of hole.

000205

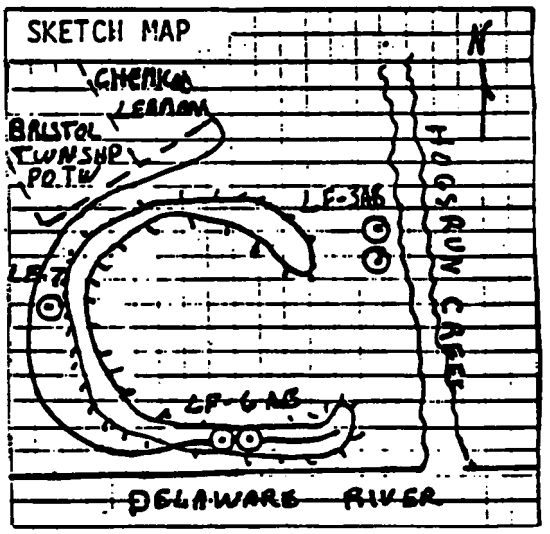
Betz·Converse·Murdoch·Inc. BCM

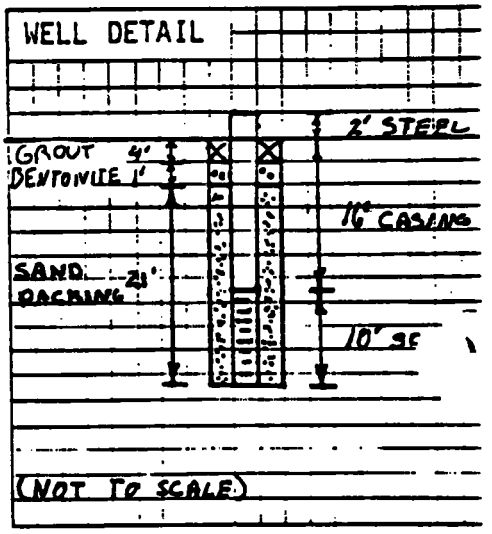
Drilling Log

Well Number LF-6B

Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location Southwest corner of landfill on levee, beside river
Driller/Company Ken/Engineering Drilling Company
Drilling Method Mud Rotary — Hole Diameter 7.3/8" — Date(s) Drilled 10-25-83
Sample Type Cuttings — Sample Interval Continuous — No. Samples Retained None
Surface Elevation 29.13'SL — Casing Top Elevation 31.87' steel — Total Well Depth 26'
Casing Material and Size Sch 40 PVC 4" ID — Cased Interval(s) 0'-16'
Grouting Type Portland Cement — Grouted Interval 0'-5'
Screening Material and Size 4" ID 0.01 Slotted PVC — Screened Interval(s) 16'-26'
Packing Material and Size Coarse, silica sand — Packed Interval 5'-26'
Depth to Static Water 23.67' Steel — Date 11-4-83 — Approx Well Yield < 1 gpm
Development Method Compressed air — Development Time 0.5 hrs.
Logged by: R. E. Sacks

Comments
Revert used during drilling.





Depth Scale	Sample	Spoon Blows	Description of Materials
0'-18'			Brown, cobbly, gravelly, fine-medium grained sand.
18'-23'			Fine-medium sand.
23'-24'			Gray-black, silty clay - clayey silt.
24'-26'			Gray-black, cobbly, gravelly, silty, sandy, clay. Sand is fine-medium grained.
26'			End of hole.

000206

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Testing -:- Inspection -:- Asphalt -:- Chemical Analysis -:- Test Borings -:- Foundations -:- Soils -:- Water -:- Steel

CLIENT Rohm and Haas Delaware Valley, Inc. DATE December 19, 1979

PROJECT Plant Control - Bristol, PA PO#003-02659 LAB. NO. 43877

Boring No. LF-7 Sheet No. 1 of 2 Ground Surface Elev. *

Ground Water Data			
Depth	Hour	Date	Hrs. After Completion
20'	12/6/79	Comp. of Hole	

A – Method of Advancing Boring	Depth
Rotary Method	0 to 30.5
	to
	to

LOW TIDE

Depth	Sample No.	Sample Depth	N	Soil Classification	Remarks
10		0-11'		Damp Brown M/F Sand Trace Silt	11'
20		11-22'		Brown C/F Sand and M/F Gravel Trace Silt	22'
30		22-30.5'		Wet Brown Silty F/Sand	30.5'
				Auger Boring Completed at 30.5 feet below existing grade.	

S – 2" O. D. Split Spoon Sample
U – Undisturbed Sample, 3" Diameter
— Core Drilling
N – Standard Penetration Resistance per 6" (140 # hammer, 30" drop)
N.R – No Recovery

000207

Driller Jay Freck

CL-150

CRAIG TESTING LABORATORIES, INC.

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Testing -:- Inspection -:- Asphalt -:- Chemical Analysis -:- Test Borings -:- Foundations -:- Soils -:- Water -:- Steel

CLIENT Rohm and Haas Delaware Valley, Inc. DATE December 19, 1979

PROJECT Plant Control - Bristol, PA PO#003-02659 LAB. NO. 43877

Boring No. LF-7 Sheet No. 2 of 2 Ground Surface Elev. *

Ground Water Data			
Depth	Hour	Date	Hrs. After Completion
20'	12/6/79	Comp. of Hole	

A – Method of Advancing Boring	Depth
Rotary Method	0 to 30
	to
	to

Depth	A	Sample No.	Sample Depth	N	Soil Classification	Remarks
5						
10						
15						
20						
25						
30						
35						
40						

Monitoring Well LF-7 Information

Water First Encountered	20 feet
Soils Boring Completed	30.5 feet
Well Point Set	30 feet
Pumping Rate	7 GPM
Draw Down	8 feet
**Static Water Level	19 feet

**Water Level Follows Tide of Delaware River.

*Exact boring locations and ground surface elevations were established and determined by client.

S – 2" O. D. Split Spoon Sample
U – Undisturbed Sample, 3" Diameter
— Core Drilling
N – Standard Penetration Resistance per 6" (140# hammer, 30" drop)
N.R – No Recovery

000208

Driller Jay Frack

Betz-Converse-Murdoch-Inc. BCM

Drilling Log

Well Number LF-8

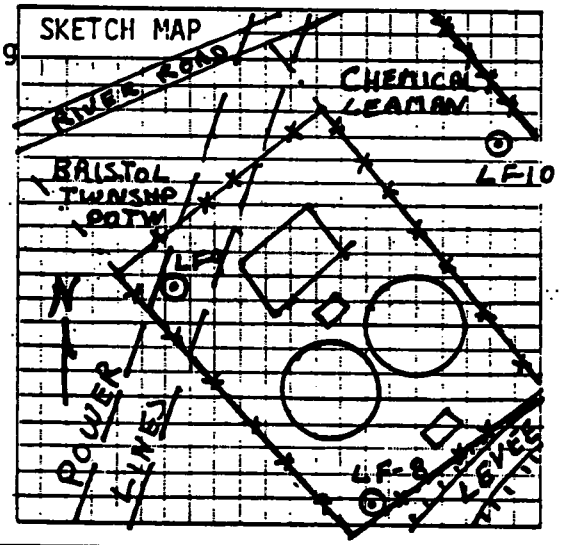
Client Rohm and Haas
Well Location Southwestern corner of Bristol Township
Driller/Company Ken/Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 7.3/8" Date(s) Drilled 10-20-83
Sample Type Split spoons Sample Interval 5' No. Samples Retained 4
Surface Elevation 13.05' SL Casing Top Elevation 15.49 Steel Total Well Depth 18'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0-8'
Grouting Type Portland Cement Grouted Interval 0-5'
Screening Material and Size 4" ID 0.016" Slotted PVC Screened Interval(s) 8-18'
Packing Material and Size Coarse silica sand. Packed Interval 5-18'
Depth to Static Water 6.44' Steel Date 11-1-83 Approx Well Yield 15 gpm
Development Method Compressed Air. Development Time .75 hrs.
Logged by: R. E. Sacks

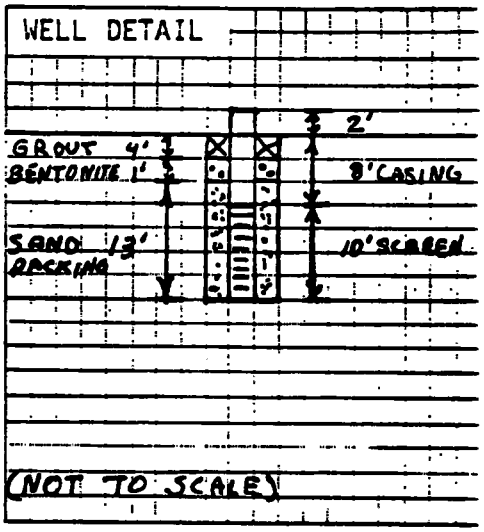
Project No. 00-4061-02
P.O.T.W.

Comments
Revert used for drilling

Blow counts shown are for each 6" of penetration using 300 LB weight.

Water foamy upon blow-out, also chemical odor





Depth Scale	Sample	Spoon Blows	Description of Materials
0-6'			Brown, clayey silt.
6'-9'	7	27, 17, 1	Black, coarse sand and well-rounded gravel.
9-13'	10	14, 15, 14	Green, medium-coarse sand and gravel. Gravel is angular-rounded.
13-18'	15	30,27, 27	Brown sandy, clayey gravel, sand is fine-grained and clay is brown-gray
18-22'	20	20, 10, 18	Weathered schist.
22'			End of hole.

000209

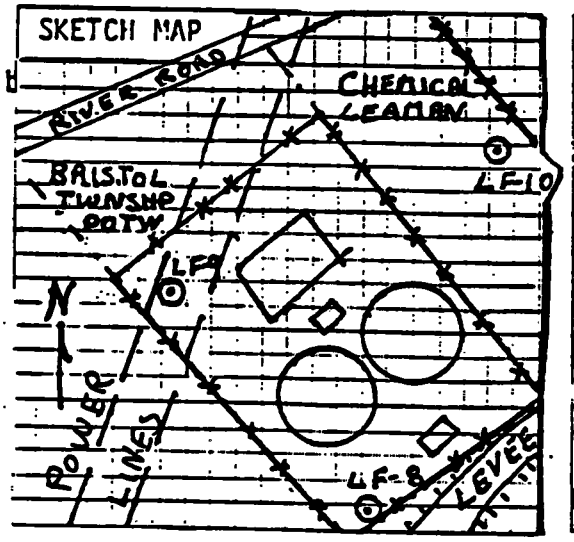
Betz·Converse·Murdoch·Inc. BCM

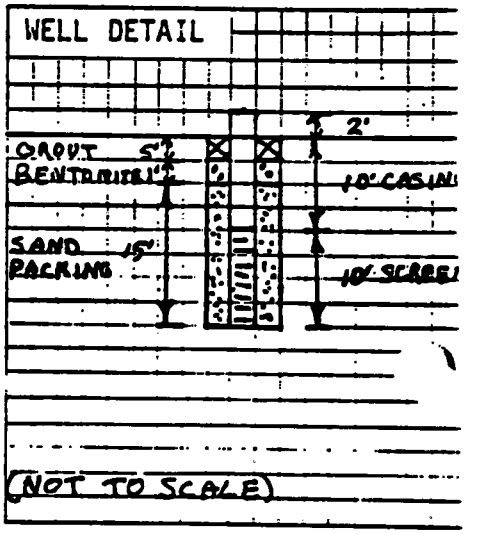
Drilling Log

Well Number LF-9

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Northwestern corner of Bristol Township, P.O.T.W.
Driller/Company Ken/Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 7 3/8" Date(s) Drilled 10-19-83
Sample Type Split spoon Sample Interval 5' No. Samples Retained 6
Surface Elevation 15.37' SL Casing Top Elevation 17.31' steel Total Well Depth 20'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0'-10'
Grouting Type Portland Cement Grouted Interval 0'-5'
Screening Material and Size 4" ID 0.016" slotted PVC Screened Interval(s) 10'-20'
Packing Material and Size Coarse, silica sand Packed Interval 5'-20'
Depth to Static Water 7.25' steel Date 10-25-83 Approx Well Yield 7-8gpm
Development Method Compressed Air Development Time 1 hr.
Logged by: R. E. Sacks

Comments
Blow counts for each 6" pentration using 300 lb weight.
Revert used.
Oily sheen on water.
Super gel-x used.





Depth Scale	Sample	Spoon Blows	Description of Materials
0'-6'	5	9, 16, 20	Brown, sandy, silty clayey, well-rounded gravel. Clay is brown-black
6'-7'			Dark brown, fine-medium sand
7'-13'	10	100-12"	Brown, sandy, silty, clayey well-rounded, fine-coarse gravel @ 8-10' red shale fragments and red clay also present.
13'-20'	20	19, 7, 10	Brown, sandy, slightly silty, well-rounded, fine to coars gravel. Sand is fine-coarse.
20'-33'	25 (NS)	7, 8, 10	Weathered schist, micaceous clay
	30	6, 9, 13	
33'-37'	35	10, 23, 27	Fresher schist, mostly calcite, with biotite, muscowite
37'			End of hole.

000210

Betz-Converse-Murdoch-Inc. BCM

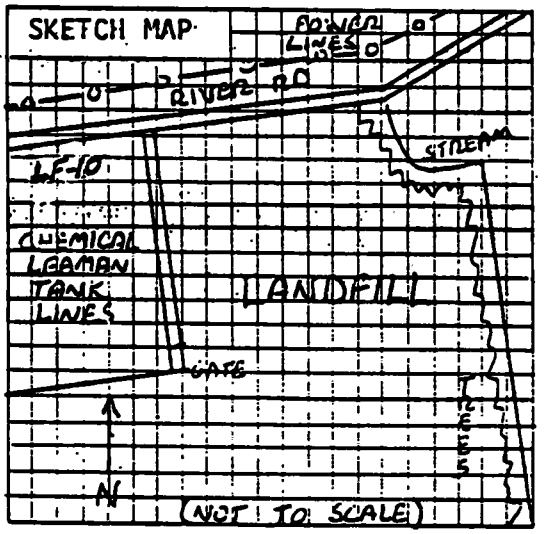
Drilling Log

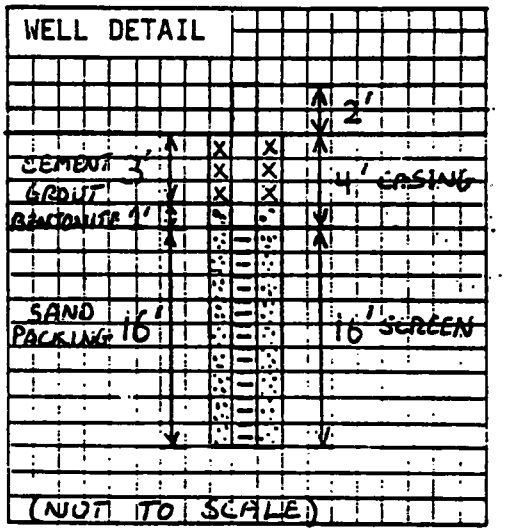
Well Number LF-10

lient Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location In brush near road at north end of Chemical Leaman Lot
Driller/Company Engineering Drilling
Drilling Method Mud rotary Hole Diameter 8" Date(s) Drilled 7/1/83
Sample Type Cuttings Sample Interval Variable No. Samples Retained None
Surface Elevation 19.21'SL Casing Top Elevation 21.60' Steel Total Well Depth 20'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0-4'
Grouting Type Portland cement Grouted Interval 0-3'
Screening Material and Size 4" ID 0.02 slotted PVC Screened Interval(s) 4-20'
Packing Material and Size Coarse grained, silica sand Packed Interval 3-20'
Depth to Static Water 16.29' Steel Date 7/5/83 Approx Well Yield 15-20 gpm
Development Method Compressed air Development Time 1 hr.
Logged by: Richard Sacks

Comments Revert and super GELX used

City water used for drilling





Depth Scale	Sample	Spoon Blows	Description of Materials
0 - 4.5			Brown clay
4.5-7			Gravel and dark gray clay with glass fragments
7-13			Dark Gray clay with pebbles and glass fragments
13-14			Large pebbles with clasts of dark gray silt and clay
14-19			Very coarse gravel (multi-colored) most are fairly well rounded, with greenish clay clasts fine gravel (multi-colored) with greenish clay clasts
21-21.5			Fine-coarse gravel and pebbles with dark gray clay clasts
21.5-22			Fine-Medium well rounded gravel in a brown clay matrix

000211

Betz·Converse·Murdoch·Inc. BCM

Drilling Log

Well Number LF-11

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location North of Chemical Leaman & River Road where power lines bend
Driller/Company Alby Hammond/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Mud rotary Hole Diameter 8" Date(s) Drilled 10-16-83
Sample Type Cuttings Sample Interval Continuous No. Samples Retained None
Surface Elevation 11.39'SL Casing Top Elevation 14.26' SteeTotal Well Depth 20'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0-10'
Grouting Type Portland Cement Grouted Interval 0-3'
Screening Material and Size 4" ID 0.01" slotted PVC Screened Interval(s) 10-20'
Packing Material and Size Coarse grained, silica sand Packed Interval 3-20'
Depth to Static Water 3.98' steel Date 10-25-83 Approx Well Yield 2-3 gpm
Development Method Compressed Air Development Time 0-5 hrs.
Logged by: R. E. Sacks

Comments
Quick-gel used

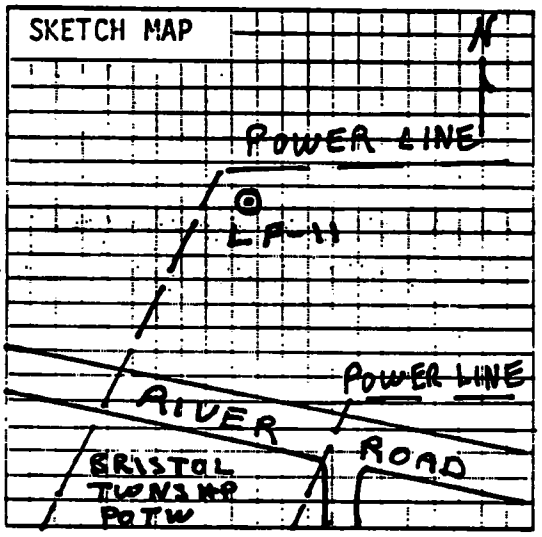
Water foamed upon blow-out

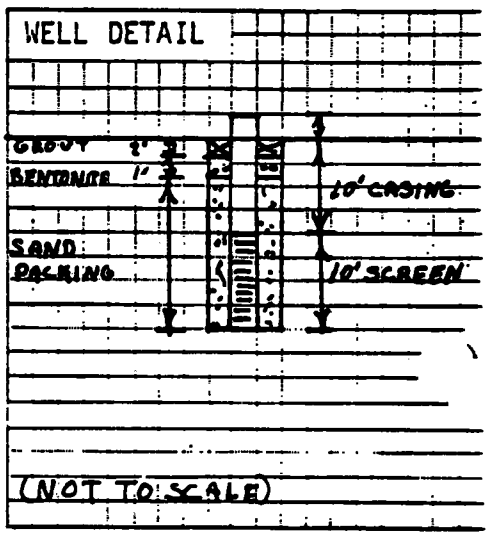
OVA - 10 ppm during blowout

OVA - One peak of 10 ppm upon ground break

Occassional peaks of 10 ppm @ 8-17'

5 ppm @ 17-18'





Depth Scale	Sample	Spoon Blows	Description of Materials
0'-8'			Dark brown-black, sandy silt, wood chips and other plant debris
8'-17'			Coarse, well-rounded gravel
17'-18'			Brown silt with black, brown & gray clay, some well-rounded coarse gravel
18'-20'			Mostly coarse gravel with less brown silt & clay
20'-22'			Weathered sehist, micaceous, clayey coarse to cobble size gravel
27'-31'			Fresh schist - very micaceous
31'			End of Hole.

000212

Betz·Converse·Murdoch·Inc. BCM

Drilling Log

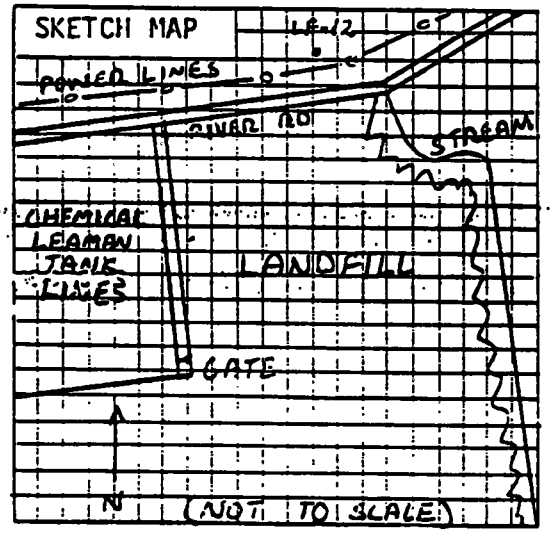
Well Number LF-12

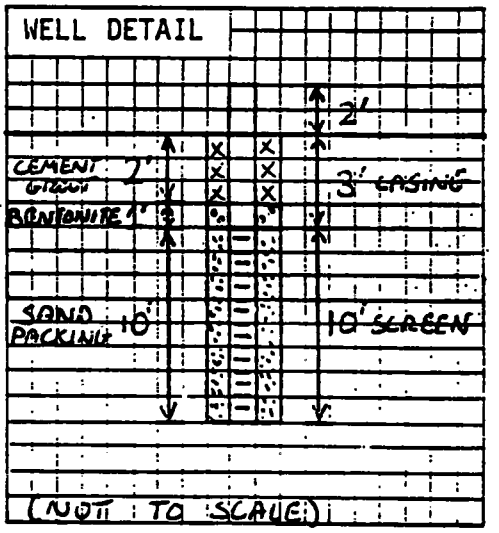
Client Rohm & Haas, Bristol, PA
Project No. 00-4061-02
Well Location North of power lines and River Road at landfill
Driller/Company Engineering Drilling
Drilling Method Mud rotary Hole Diameter 8" Date(s) Drilled 7/1/83
Sample Type Cuttings Sample Interval Variable No. Samples Retained None
Surface Elevation 17.85'SL Casing Top Elevation 20.76'Steel Total Well Depth 13'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0-3'
Grouting Type Portland Cement Grouted Interval 0-2'
Screening Material and Size 4" ID 0.02 slotted PVC Screened Interval(s) 3-13'
Packing Material and Size Coarse grained silica sand Packed Interval 2-13'
Depth to Static Water 10.54' Steel Date 7/5/83 Approx Well Yield Very little
Development Method Compressed air Development Time 0.5 hr.
Logged by: Alan Robinson

Comments Revert and super GELX used

City water used for drilling

Water turbid





Depth Scale	Sample	Spoon Blows	Description of Materials
0'-1'			Coarse, brown sand with ciotite, silica and shale; very
2'-5.5'			Fine, angular gravel
5.5'-6'			Becoming coarser, some pebbles, including limestone,
			quartz, sandstone and schist
6'-8'			Approximately 50% pebbles
6.5'			Drill bit bouncing
8'-11'			More sandy, coarse brown sand with various colored pebbles
11'-12.5'			Increased pebble fraction 4-15 mm, almost no sand
12.5-13'			Brown sandy silt

000213

Betz·Converse·Murdoch·Inc. BCM

Drilling Log

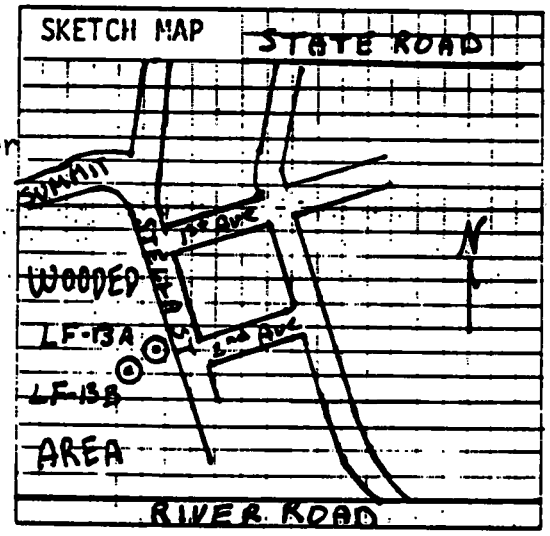
Well Number LF-13A

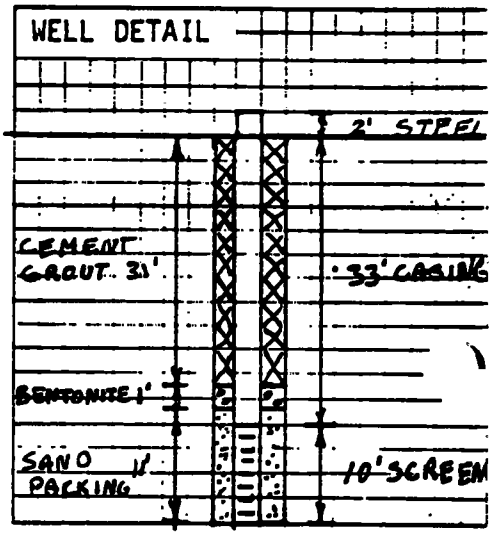
Client Rohm and Haas — Project No. 00-4061-02
Well Location Second avenue and Stella Street in woods
Driller/Company Ken Kutarnia/Engineering Drilling Co.
Drilling Method Mud Rotary — Hole Diameter 7 3/4" — Date(s) Drilled 1/12/84
Sample Type Split Spoon — Sample Interval 5' — No. Samples Retained 9
Surface Elevation 16.70' SL — Casing Top Elevation 18.79' Steel — Total Well Depth 43'
Casing Material and Size 4" ID SCHEDULE 40 PVC — Cased Interval(s) 0-33'
Grouting Type Portland Cement — Grouted Interval 0-32'
Screening Material and Size 4" ID 0.016" Slotted PVC — Screened Interval(s) 33'-43'
Packing Material and Size Coarse Silica Sand — Packed Interval 32'-43'
Depth to Static Water 6.80' Steel — Date 2/14/84 — Approx Well Yield 20 gpm
Development Method Compressed Air — Development Time 0.5 hrs
Logged by: Richard Sacks

Comments Revert used

Drilled first with 4 3/4" bit during sampling, reamed to final diameter with 7 3/4" bit

Spoon blows for each 6" of penetration





Depth Scale	Sample	Spoon Blows	Description of Materials
0-16'	5'	8,14,24,26	brown silty, fine-coarse grained sand and fine-coarse
	10'	7,12,15,22	gravel, well rounded
	15'	5,9,22,12	
16-21'	20' (ns)	6,9,12,10	brown, gravelly, fine-medium grained sand
21-26'	22'	4,4,4,4	reddish brown-brown, slightly sandy, silty, clay, with
			traces of rounded gravel
	25'	0,0,4,2	
26-31'	30'	7,5,5,15	brown, silty, fine-medium grained sand gravelly 29-31
31-34'			brown, sandy, silty, clay
	35'	22.30.29,32	
34-43'	40'	18,19,14,16	brown, silty, fine-coarse sand and gravel with thin
			interbeds of reddish-brown gravel is rounded
43-45'	45' (NS)	10,16,17,28	green, micaceous clay (weathered schist)
	47'	6,13,21,28	
45-49'			Schist, less weathered, muscovite and biotite, with
			parallel orientation, also quartz

000211

Betz·Converse·Murdoch·Inc. BCM

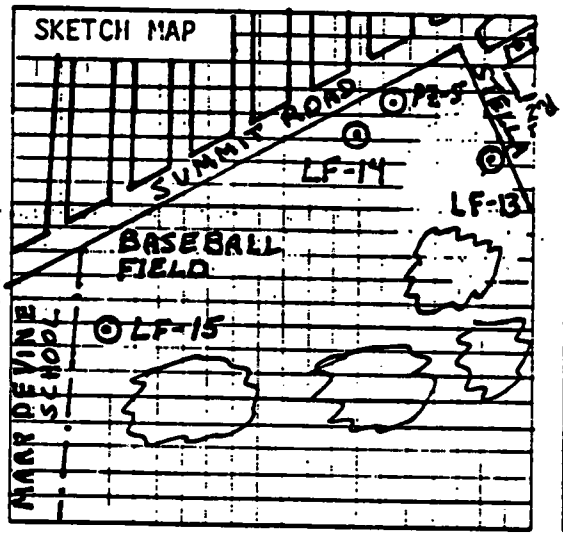
Drilling Log

Well Number LF-13 B

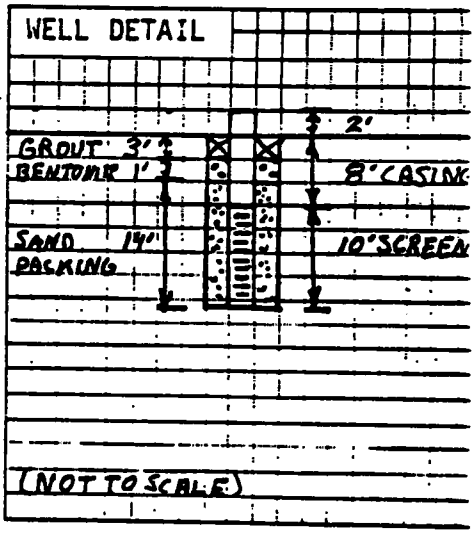
Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Second Avenue and Stella Street near baseball field
Driller/Company Jim Schultes/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Auger Hole Diameter 12" Date(s) Drilled 10-14-83
Sample Type Cuttings Sample Interval Continuous No. Samples Retained None
Surface Elevation 16.95'SL Casing Top Elevation 19.78' Steel Total Well Depth 18'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0-8'
Grouting Type Portland Cement Grouted Interval 0-4'
Screening Material and Size 4" ID 0.01" slotted PVC Screened Interval(s) 8-18'
Packing Material and Size Coarse grained, silica sand Packed Interval 4-18'
Depth to Static Water 8.29' steel Date 10-26-83 Approx Well Yield 4 gpm
Development Method Compressed Air Development Time .75 hrs.
Logged by: P.A. Coppock

Comments
Water - Turbid

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-10'			Reddish, brown, silty sand with poorly sorted, fine to cobble size, well rounded gravel
10-18'			Multi-colored, poorly sorted, fine, cobble size, well rounded gravel, with reddish brown, silty sand
18'			End of hole.

000215

Betz·Converse·Murdoch·Inc. BCM

Drilling Log

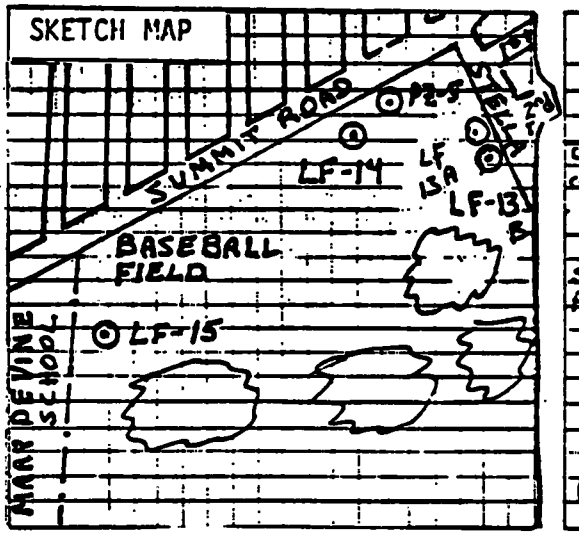
Well Number LF-14

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location NE Corner of base ball fields, east of Mary Devine School
Driller/Company Jim Schultes/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Auger Hole Diameter 12" Date(s) Drilled 10-13-83
Sample Type Cuttings Sample Interval Continuous No. Samples Retained None
Surface Elevation 19.05'SL Casing Top Elevation 21.70' Steel Total Well Depth 20'
Casing Material and Size Sch 40 PVC 4" ID Cased Interval(s) 0.0-10.0'
Grouting Type Portland Cement Grouted Interval 0.0-7.5'
Screening Material and Size 4" ID 0.02" slotted PVC Screened Interval(s) 10-20'
Packing Material and Size Coarse grained, silica sand Packed Interval 7.5-25'
Depth to Static Water 9.44' Steel Date 10/26/83 Approx Well Yield 15 gpm
Development Method Compressed Air Development Time 1.0 hrs.
Logged by: P. A. Coppock

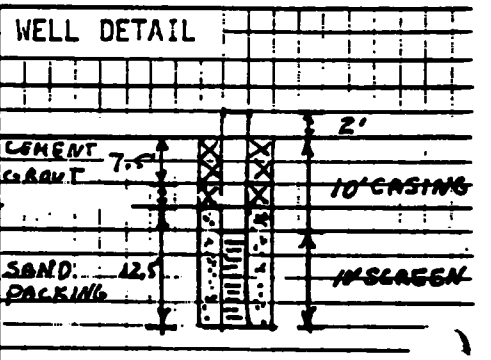
Comments

No bentonite seal.

SKETCH MAP



WELL DETAIL



(NOT TO SCALE)

Depth Scale	Sample	Spoon Blows	Description of Materials
0-5'			Brownish, red, silty, sand and poorly sorted, fine to cobble size gravel. Equal portions of sand and gravel.
5-23'			Brownish, red, silty sand and poorly sorted, fine to cobble size gravel.
23'			End of Hole.

000216

Betz·Converse·Murdoch·Inc. BCM

Drilling Log

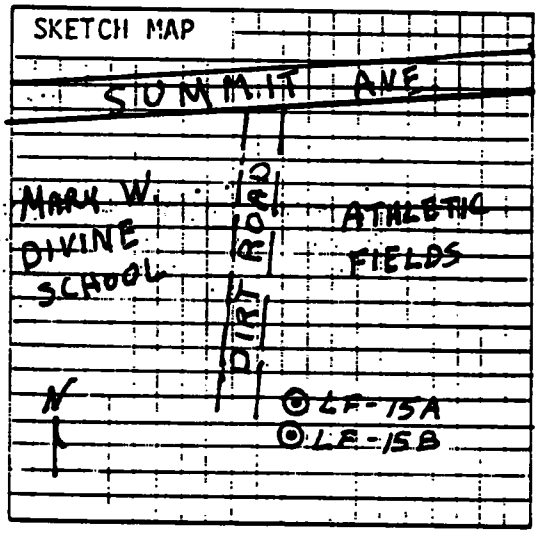
Well Number LF-15A

Client Rohm and Haas. Project No. 00-4061-02
Well Location SW corner of baseball fields near Mary Devine School
Driller/Company Ken Kutarnia/Engineering Drilling Company
Drilling Method Mud rotary Hole Diameter 7 3/4" Date(s) Drilled 1/10/84
Sample Type Split spoon Sample Interval 5' No. Samples Retained
Surface Elevation 16.20' SL Casing Top Elevation 18.76' Steel Total Well Depth 37'
Casing Material and Size 4" ID Schedule 40 PVC Cased Interval(s) 0 - 27'
Grouting Type Portland cement Grouted Interval 0 - 26'
Screening Material and Size 4" ID 0.01" slotted PVC Screened Interval(s) 27 - 37'
Packing Material and Size Coarse silica sand Packed Interval 26 - 37'
Depth to Static Water 7.26' Steel Date 2/21/84 Approx Well Yield 60 gpm
Development Method Compressed air Development Time 0.5 hours
Logged by: Richard E. Sacks

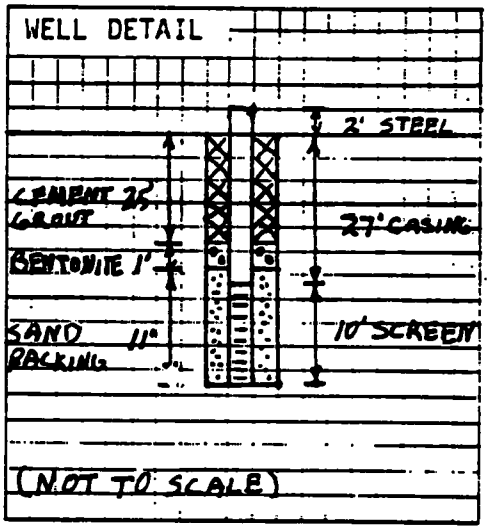
Comments Revert used Drilled first with 4-3/4" bit during sampling, reamed to final diameter with 7-3/4" bit

Spoon blows for each 6" of penetration

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0 - 11'	5'	2,2,20,31	brown, cobbly, gravelly, sandy, silt, cilty sand with
	10'	22,15,12,13	thin (2-3") gray clay interbeds, gravel and cobbles
			well rounded
11 - 13'			brown, fine grained, slightly micaceous, silty, sand
13 - 14'	15'	46,32,18,17	Reddish-brown, silty, clay with occasional cobbles
14-17'			Multi-colored cobbles and gravel, green, fine-coarse
			sand and traces of reddish-brown clay
17 - 24'	20'	8,7,6,5	Tan, medium grained, well sorted, sand
24 - 28'	(NS)25'	13,11,7,8	Brown, cobbly, gravelly, coarse sand with traces of fine
	27'	10,7,7,10	sand, silt and clay
28 - 37'	30'	13,19,18,41	Brown, gravelly, cobbly, silty, clayey, medium-coarse
	35'	21,36,28,22	sand
37 - 40'	40'	6,8,9,50	Green, silty, micaceous clay, (weathered schist)
40 - 45'	(NS)45'	4,100	Schist, less weathered, contains biotite, muscovite, cal-
			cite and garnet

000217

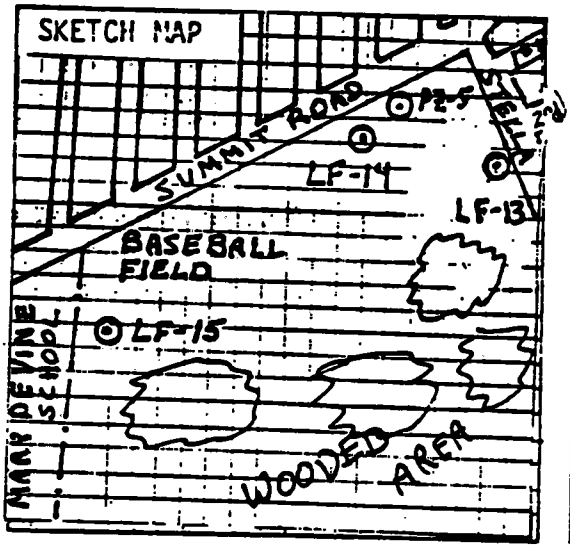
Betz·Converse·Murdoch·Inc. BCM

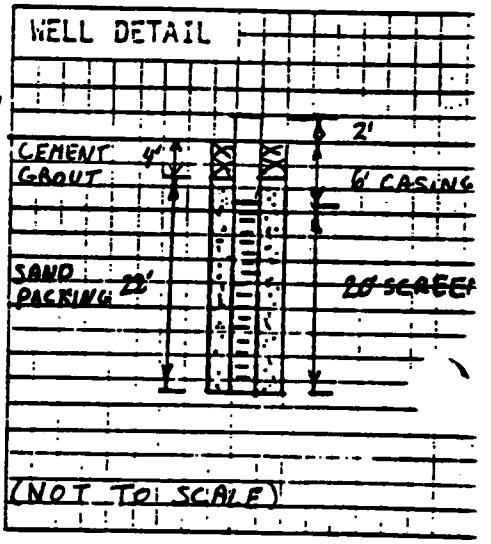
Drilling Log

Well Number LF-15 B

Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location SW Corner of base ball fields, east of Mary Devine School
Driller/Company Calvin Wallace/A.C. Schultes & Sons, Inc., Woodbury, NJ
Drilling Method Auger — Hole Diameter 12" — Date(s) Drilled 10/13/83
Sample Type Cuttings — Sample Interval Continuous — No. Samples Retained None
Surface Elevation 15.90 SL — Casing Top Elevation 18.46' Steel — Total Well Depth 26'
Casing Material and Size Sch 40 PVC 4" ID — Cased Interval(s) 0-6'
Grouting Type Portland Cement — Grouted Interval 0-4'
Screening Material and Size 4" ID 0.01" slotted PVC — Screened Interval(s) 6-26'
Packing Material and Size Coarse grained, silica sand — Packed Interval 4-26'
Depth to Static Water 10.23' Steel — Date 10/26/83 — Approx Well Yield 5 gpm
Development Method Compressed Air — Development Time 1.0 hrs.
Logged by: R. E. Sacks

Comments
No bentonite seal





Depth Scale	Sample	Spoon Blows	Description of Materials
0'-27'			Brown, silty sand with coarse, well rounded, gravel and small cobbles
27'			End of Hole

000218

Betz·Converse·Murdoch·Inc. BCM

Drilling Log

Well Number LF-16

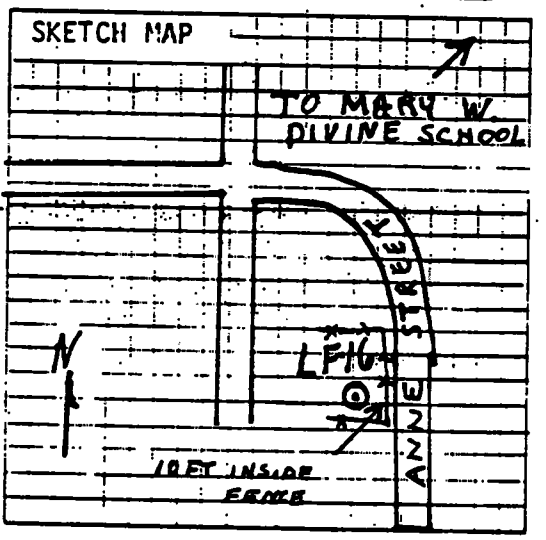
Client Rohm and Haas — Project No. 00-4061-02
Well Location West side of Anne Street approximately 50 yards south of Miller Avenue
Driller/Company Ken Kutarnia/Engineering Drilling Company
Drilling Method Mud rotary — Hole Diameter 7 3/4" — Date(s) Drilled 1/16-17/84
Sample Type Split Spoon — Sample Interval 5' — No. Samples Retained 8
Surface Elevation 12.44' SL — Casing Top Elevation 14.38' Steel — Total Well Depth 37'
Casing Material and Size 4" ID Schedule 40 PVC — Cased Interval(s) 0 - 27'
Grouting Type Portland Cement — Grouted Interval 0 - 25'
Screening Material and Size 4" ID 0.016" slotted PVC — Screened Interval(s) 27-37'
Packing Material and Size Coarse silica sand — Packed Interval 25-37'
Depth to Static Water 4.33' Steel — Date 2/17/84 — Approx Well Yield 50 gpm
Development Method Compressed air — Development Time 1 hr.
Logged by: Richard E. Sacks

Comments Revert used At approximately 14' 1/3 of drilling mud lost in hole, slow mud loss thereafter

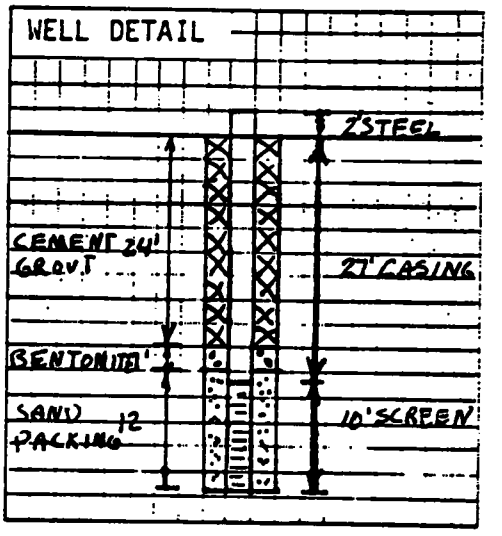
Drilled first with 4 3/4" bit during sampling, reamed to final diameter with 7 3/4" bit

Spoon blows for each 6" of penetration

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-4.5'	5'	13,27,20,30	Brown, slightly clayey, slightly sandy, silt
4.5-13'	10'	13,9,9,12	Brown-dark brown, gravelly, medium grained sand. Gravel is fine-coarse and well rounded
13-17'	15'	9,8,10,12	Brown, gravelly, slightly silty, medium-coarse sand, with thin interbeds of dark green clayey-silt
17-20'	20'	3,2,2,4	Brown sandy clay, gravelly 19.5 - 20'
20-33'	25'	4,4,6,4	Tan-brown, alternating beds of fine-medium sand and sandy, silty clay with traces of gravel beds vary.
	30'	4,3,2,4	2 inches to 3 feet thick
			Sand - 27' to 31'
33-37'	35'	13,11,18,12	Brown-rust, slightly silty, fine-coarse sand and gravel, very micaceous
37-42'	40'	15,18,15,21	Weathered schist, muscovite, biotite, quartz

000219

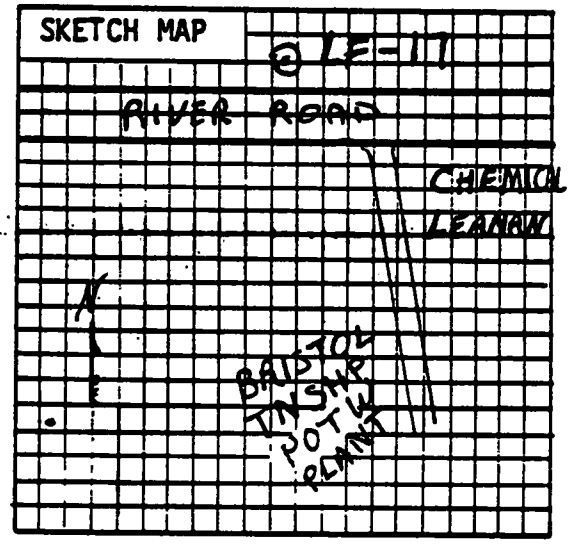
Betz-Converse-Murdoch-Inc. BCM

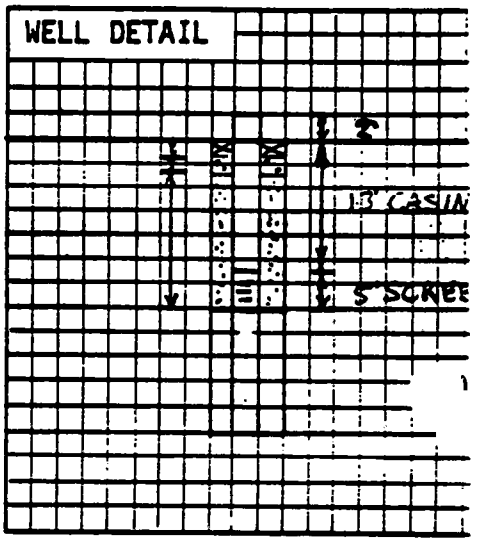
Drilling Log

Well Number LF-17

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location North of Municipal Highway Dept. Bld. on north side of River Road
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary Hole Diameter 7 3/8" Date(s) Drilled 1/24/84
Sample Type Split Spoon Sample Interval 5' No. Samples Retained 6
Surface Elevation 16.04' SL Casing Top Elevation 18.48' Steel Total Well Depth 18'
Casing Material and Size Schedule 40 PVC 4" ID Cased Interval(s) 0-13'
Grouting Type Portland Cement Grouted Interval 0-3.5'
Screening Material and Size 4"ID Sch 40 0.016"Slotted PVC Screened Interval(s) 13-18'
Packing Material and Size Coarse grained, silica sand Packed Interval 3.5-18'
Depth to Static Water 7.50' Steel Date 2/17/84 Approx Well Yield 1 gpm
Development Method Compressed Air Development Time .5 hr.
Logged by: Paula Coppock

Comments
Weathered schist @ 18'





Depth Scale	Sample	Spoon Blows	Description of Materials
0-5'	5-7'	8,8,9,5	Tan - brown, sandy, clayey SILT some coarse grained gravel.
	10-12'	4,4,4,4	
5-18'			Grey-brown, sandy,clayey SILT some coarse grained gravel
	15-17'	2,1,0,1	
18-30'	20-22'	6,7,7,9	Green, micaceous CLAY some coarse biotite grains, garnet and white clay
30'	30-32'		END OF HOLE

000220

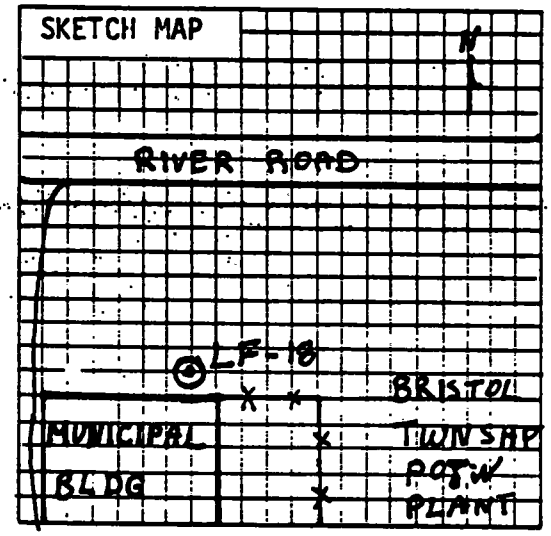
Betz-Converse-Murdoch-Inc. BCM

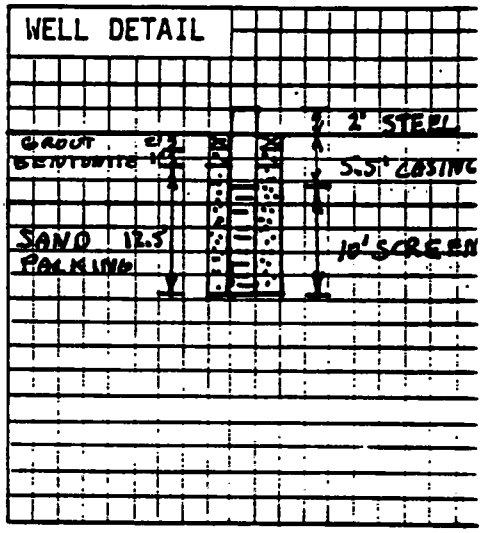
Drilling Log

Well Number LF-18

Client Rohm & Haas, Bristol, Pa. Project No. 00-4061-02
Well Location Northeast corner of Municipal Highway Dept. Bldg. property near River Rd.
Driller/Company Ken Kutarnia / Engineering Drilling Company
Drilling Method Mud Rotary Hole Diameter 7 3/8" Date(s) Drilled 1/25/84
Sample Type Split Spoon Sample Interval 5' No. Samples Retained 6
Surface Elevation 13.10'SL Casing Top Elevation 16.14' Steel Total Well Depth 15.5'
Casing Material and Size Schedule 40 PVC 4" ID Cased Interval(s) 0-5.5'
Grouting Type Portland Cement Grouted Interval 0-3'
Screening Material and Size Sch 40 4"ID 0.016"Slotted PVC Screened Interval(s) 5.5-15.5'
Packing Material and Size Coarse grained, silica sand Packed Interval 3-15.5'
Depth to Static Water 4.51' Steel Date 2/17/84 Approx Well Yield 5 gpm
Development Method Compressed Air Development Time 1 hr.
Logged by: Paula A. Coppock

Comments
300 lb. hammer
3"-2" spoon
2 feet in length
weathered schist @ 13'
Water slightly cloudy





Depth Scale	Sample	Spoon Blows	Description of Materials
0-4'			Brown, sandy SILT
4-13'	5-7'	11,8,10,21	Brown-orange, silty, medium-coarse SAND, fine-coarse
	10-12'	15,19,25,31	gravel, green sand, brown sandy clay and maroon silt
13-15.5'			Green-brown, silty CLAY - clayey SILT, some mica
15.5-17'	15-17'	6,7,10,11	Green-grey-white, clayey SILT with trace of biotite flakes
17-25'	17-19'	9,10,19,15	Green-gray-white micaceous silty CLAY with calcite
	20-22'	1,5,7,10	
	25-27'	7,7,10,14	
27'			END HOLE

000221

Delz-Converse-Murdoch-Inc. BCMI

Drilling Log

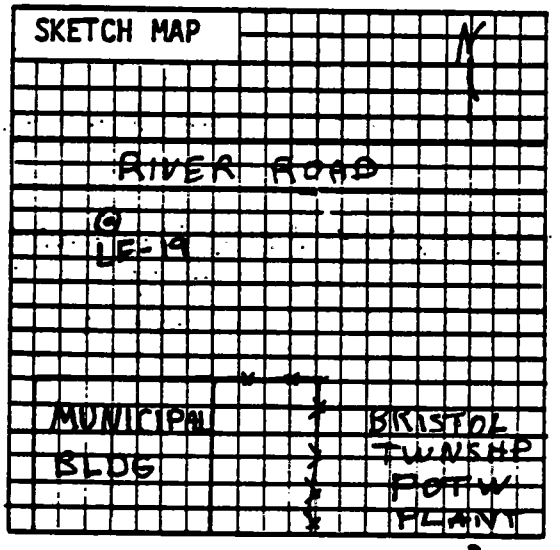
Well Number LF = 19

Client Rohm and Haas, Bristol, PA
Project No. 00-4061-02
Well Location Front lawn of Municipal Highway Bldg. on River Rd., near mailbox
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary Hole Diameter 7 3/8" Date(s) Drilled 1/25/84
Sample Type Split Spoon Sample Interval 5' No. Samples Retained 6
Surface Elevation 17.22'SL Casing Top Elevation 19.75'Steel Total Well Depth 13'
Casing Material and Size Schedule 40 PVC 4"ID Cased Interval(s) 0-8
Grouting Type Portland Cement Grouted Interval 0-3'
Screening Material and Size Sch 40 4"ID 0.016" slotted PVC Screened Interval(s) 8-18'
Packing Material and Size Coarse grained, silica sand Packed Interval 3-18'
Depth to Static Water 8.20' Steel Date 2/17/84 Approx Well Yield 5gpm
Development Method Compressed Air Development Time .5 hr.
Logged by: Paula A. Coppock

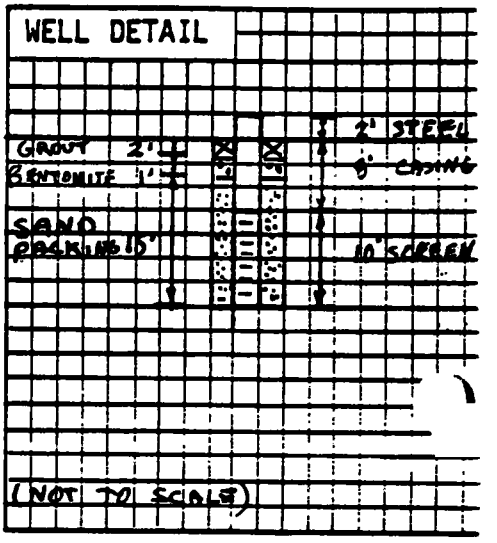
Comments
Water is slightly cloudy but not dirty

Weathered schist @ 18'

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-18'	5-7'	6,8,17,16	Brown, fine-coarse grained Sand and fine-coarse grained GRAVEL with maroon silt
	10-12'	13,7,8,12	
18-25'			Green-gray, micaceous silty CLAY
25'	15-17'	4,13,9,10	END HOLE
	20-22'	4,4,6,6	
	25-27'	6,7,8,19	
	30-32'	4,4,8,9	

000222

Betz·Converse·Murdoch·Inc. BCM

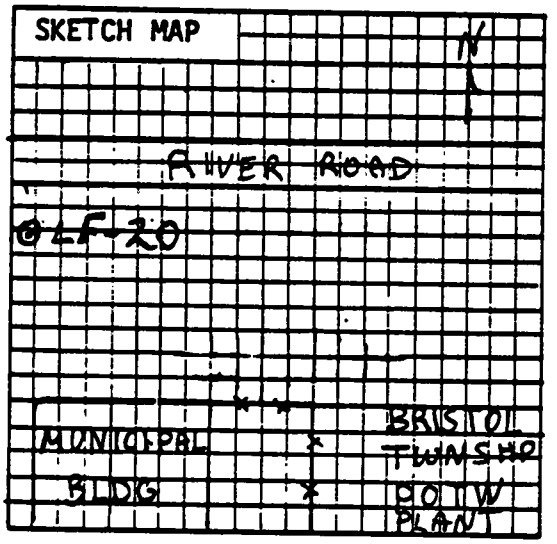
Drilling Log

Well Number LF-20

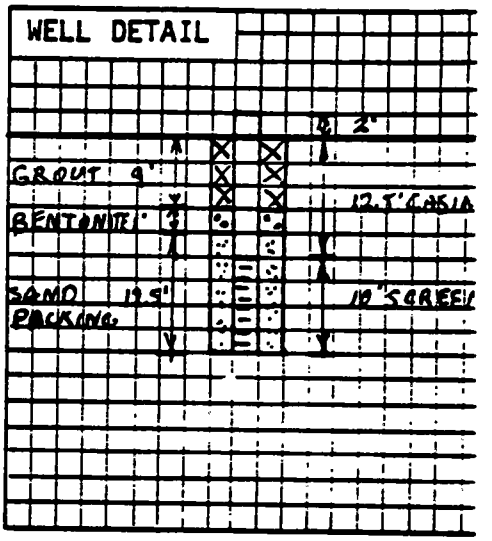
Client Rohm and Haas, Bristol, PA — Project No. 00-4061-02
Well Location North west corner of Municipal Bldg.
Driller/Company Ken Kutarnia / Engineering Drilling Co.
Drilling Method Mud Rotary — Hole Diameter 7 3/8" — Date(s) Drilled 1/26/84
Sample Type Split Spoon — Sample Interval 5' — No. Samples Retained 6
Surface Elevation 21.78' SL — Casing Top Elevation 24.16' Steel — Total Well Depth 22.5'
Casing Material and Size Schedule 40 PVC 4" ID — Cased Interval(s) 0-12.5'
Grouting Type Portland Cement — Grouted Interval 0-10'
Screening Material and Size Sch 40 4"ID 0.016"Slotted PV — Screened Interval(s) 12.5-22.5
Packing Material and Size Coarse grained, silica sand — Packed Interval 10-22.5'
Depth to Static Water 12.34' Steel — Date 2/17/84 — Approx Well Yield 5 gpm
Development Method Compressed air — Development Time .5 hr.
Logged by: Paula A. Coppock

Comments
300 lb. hammer
2-3" spoon
blows counted every 6"
1 peak on OVA @ 10' (.6 ppm)
foam on water @ 23'
25-30', OVA .2 ppm
Weathered schist @ 22.5

SKETCH MAP



WELL DETAIL



Depth Scale	Sample	Spoon Blows	Description of Materials
0-3'	5-7'	12.20.29.31	Brown, sandy SILT, some fine-medium grained gravel
3-9'	10-12'	12.12.11.9	Brown, sandy SILT, some fine-coarse grained gravel
	15-17'	9.12.14.9	
9-16'			Brown-tan, coarse grained, silty SAND, some medium-
	20-22'	12.15.27.50	coarse gravel
16-27.5'	25-27'	16.13.14.15	NS Brown-tan, coarse grained silty SAND, some medium-
	27-29'	10.11.12.15	coarse gravel, liitle maroon clay, little cobbles
22.5-24'	35-37'	7.8.11.14	Green, micaceous, clayey SILT, or silty CLAY
24-29'			Green micaceous, silty CLAY and brown-tan coarse grained, silty SAND, little medium-coarse grained gravel
29-37'			Green micaceous, silty CLAY
37'			END OF HOLE

000223

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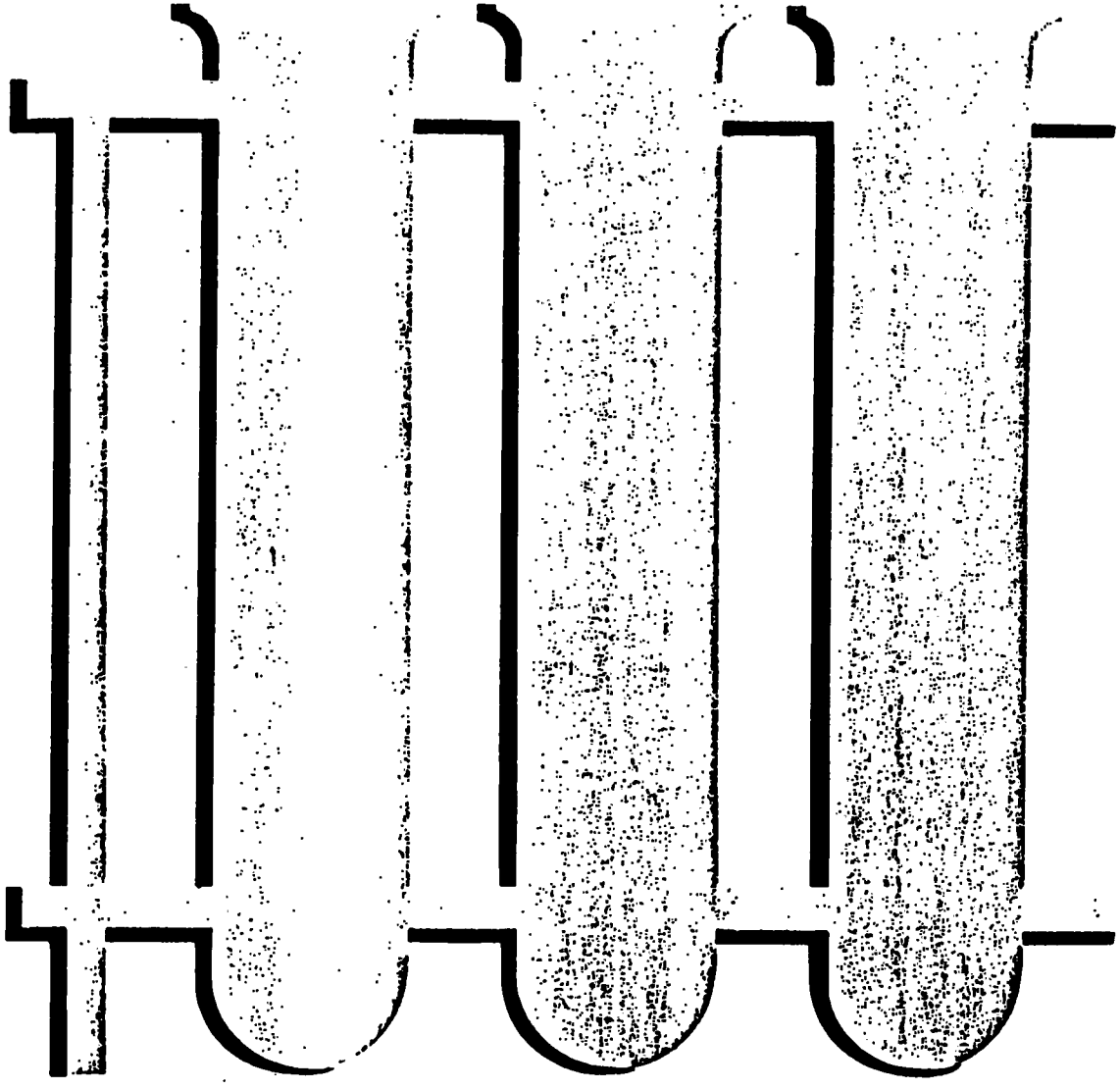
APPENDIX F

LAB SAMPLE PRESERVATION PROTOCOL



BCM

Sample Collection & Preservation Guide

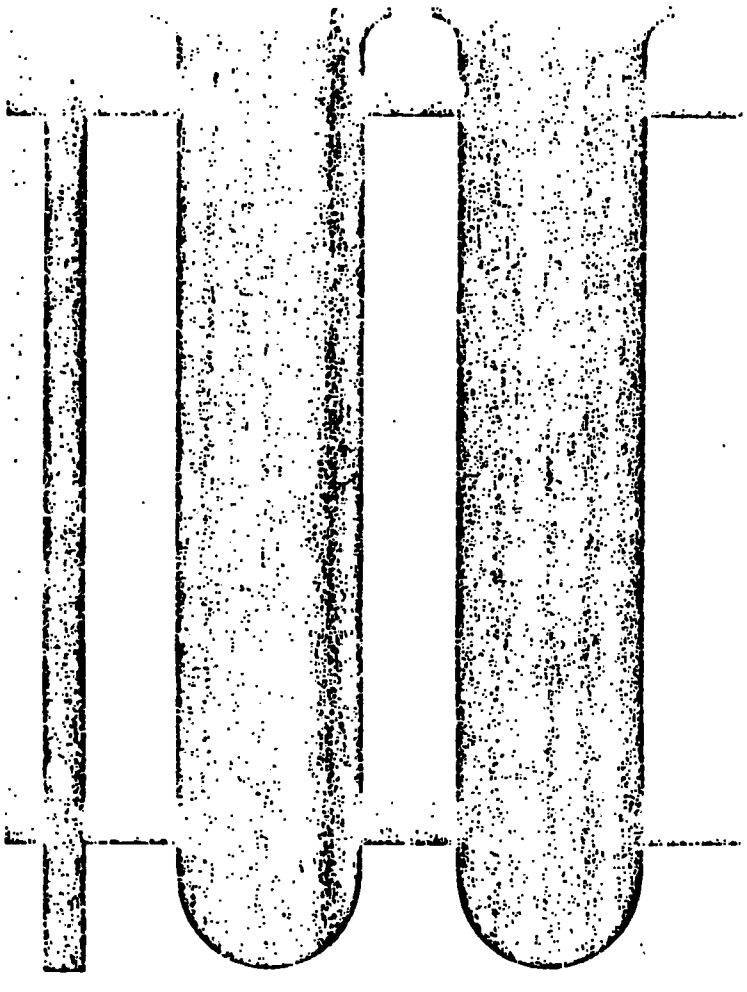
AR000224A

AR0002248

ANALYTICAL LABORATORY SERVICES

Biological Toxicity & Environmental Impact Testing
Potable & Groundwater Contamination Analysis
Hazardous & Toxic Wastes Analysis
Wastewater & NPDES Testing
Solids & Sediments Analysis
Fuels & Materials Testing
Air & OSHA Services
Mining Services

- special ship-paks for distant locations
- sampling & technical service
- full EPA certification
- sample pick-up service



BCM LABORATORY DIVISION

SAMPLE COLLECTION AND PRESERVATION GUIDE

000225

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time	Lower Detection Limit mg/l
Acidity, as $CaCO_3$	mg/l	-	Cool at 4°C	100 ml	G or P	24 hrs.	1
Alkalinity, as $CaCO_3$	mg/l	-	Cool at 4°C	100 ml	G or P	24 hrs.	1
Aluminum, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.25
Antimony, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.125
Arsenic, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.001
Bacteriological							
Coliform, fecal	No./100 ml	Samples must be obtained in sterile bottles. For chlorinated waters, use sodium thiosulfate	Cool at 4°C immediately after sampling	300 ml	G or P sterile	6 hrs.	-
Coliform, total	MPN						-
Streptococci, fecal	No./100 ml						-
Total Count	No./ml						-
Barium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.2
Barium, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.01
Beryllium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.01
BOD_5	mg/l	-	Cool at 4°C	500 ml(1)	G or P	24 hrs.	2 to 4
BOD_{5+20}	mg/l	-	Cool at 4°C	500 ml(1)	G or P	24 hrs.	2 to 4
Boron, total	mg/l	see "Metals"*	HNO_3 to pH<2	10 ml	G or P	6 mos.	0.1
Bromide	mg/l	-	Cool at 4°C	100 ml	G or P	24 hrs.	2.0
Cadmium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.005

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time	Lower Detection Limit mg/l
Cadmium, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.0002
Calcium, total (by AA)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.02
Calcium, as $CaCO_3$ (titration)	mg/l	-	HNO_3 to pH<2	100 ml	G or P	6 mos.	0.5
Carbon, organic	mg/l	-	Cool at 4°C and HCl or H_2SO_4 to pH<2	25 ml	G or P	24 hrs.	1
COD	mg/l	-	H_2SO_4 to pH<2	50 ml	G or P	7 days	5
Chloride	mg/l	-	None required	100 ml	G or P	7 days	0.5
Chlorine, requirement or demand	-	Best determined on site	Cool at 4°C	1000 ml	G or P	None	-
Chromium, hexavalent	mg/l	see "Metals"*	Cool at 4°C	100 ml(1)	G or P	48 hrs.	0.02
Chromium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.02
Chromium, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.002
Cobalt, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.05
Color, Pt/Co standards	-	Use very clean	Cool at 4°C	50 ml(2)	G or P	48 hrs.	-
Color, tristimulus photometer	-	glassware		100 ml(2)	G or P	48 hrs.	-
Copper, total	mg/l	see "Metals"*	see "Metals"*	200 ml(1)	G or P	6 mos.	0.03
Cyanide, total	mg/l	-	Add NaOH to pH 12 and cool at 4°C	500 ml(1)	P or G	24 hrs.	0.005
Cyanide amenable to chlorination	mg/l	For chlorinated waters, use Thiosulfate		1000 ml(1)	P or G	24 hrs.	0.005

Dissolved Oxygen Probe	mg/l	Determine on site	None satisfactory	500 ml	G bottle & top	None	-
Winkler	mg/l	Exclude air by filling bottle completely	Fix on site	500 ml	G bottle & top	4-8 hrs.	-
Fluoride, distilled, photometric	mg/l	-		300 ml(1)	P	7 days	0.1
Fluoride, distilled, probe	mg/l	-	None required	300 ml(1)	P	7 days	0.1
Fluoride, nondistilled, probe	mg/l	-		50 ml(1)	P	7 days	0.1
Gold, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.25
Hardness, total $CaCO_3$	mg/l	-	HNO_3 to pH<2	100 ml	G or P	6 mos.	1
Iron, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.04
Lead, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.1
Lead, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.002
Lithium	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.007
Magnesium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.002
Magnesium, hardness, as $CaCO_3$	mg/l		HNO_3 to pH<2	100 ml	G or P	6 mos.	1
Manganese, total	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.014
Mercury, total	mg/l	see "Metals"*	HNO_3 to pH<2 0.05% $K_2Cr_2O_7$	200 ml(1)	G or P	38 days (glass) 13 days (plastic)	0.00005
Molybdenum, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.5
Nickel, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.1

002027

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time	Lower Detection Limit mg/l
Nitrogen, ammonia, distilled	mg N/l	Exclude air by filling bottle completely	H_2SO_4 to pH<2 and cool at 4°C	500 ml(1)	G or P	24 hrs.	0.05
Nitrogen, ammonia, direct Nessler	mg N/l			50 ml	G or P	24 hrs.	0.05
Nitrogen, nitrate	mg N/l	-	Cool at 4°C	100 ml	G or P	24 hrs.	0.01
Nitrogen, nitrite	mg N/l	-	Cool at 4°C	50 ml	G or P	48 hrs.	0.05
Nitrogen, organic	mg N/l	-	H_2SO_4 to pH<2 and cool at 4°C	600 ml(1)	G or P	24 hrs.	0.05
Nitrogen, total (Kjeldahl)	mg N/l	-		100 ml(1)	G or P	24 hrs.	0.05
Odor	Threshold odor number	Collect in glass bottles with glass or Teflon closure	No satisfactory method	200 ml	G only	24 hrs.	-
Oil and Grease	mg/l	-	2 ml H_2SO_4 or HCl per liter (pH2) and cool to 4°C	1000 ml(1)	G only	24 hrs.	1
pH	-	Best determined on-site	No satisfactory method	100 ml(2)	G or P	6 hrs.	-
Phenols	mg/l	-	Cool at 4°C and add H_3PO_4 to pH<4 1.0 g $CuSO_4$ 1 liter	1000 ml(1)	G only	24 hrs.	0.002
Phosphorus, ortho	mg P/l	Filter on-site	Cool at 4°C	50 ml	G or P	24 hrs.	0.01
Phosphorous (hydrolyzable)	mg/l	-	Cool at 4°C and H_2SO_4 to pH<2	100 ml	G or P	24 hrs.	0.01
Phosphor (total)	mg/l	-	at 4°C to pH<2	50 ml	G or P	24 day	0.01

000228

Potassium, total (AA)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.004
Selenium, total (AA)	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.001
Silica, dissolved	mg/l	-	Cool at 4° C	50 ml	P only	7 days	1
Silver, total	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.02
Silver, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.001
Sodium, total (AA)	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.002
Solids, total	mg/l					7 days	
Solids, total, volatile	mg/l	Nonhomogeneous				7 days	
Solids, dissolved	mg/l	solids: leaves,	Cool at 4°C			7 days	
Solids, dissolved, volatile	mg/l	sticks, fish, fecal lumps		100 ml	G or P	7 days	1
Solids, suspended	mg/l	should be				7 days	
Solids, suspended, volatile	mg/l	excluded from the sample				7 days	
Solids, settleable	ml/l			1000 ml	G or P	24 hrs.	1 ml/l
Specific conductance	umhos/cm at 25°C	-	Cool at 4°C	100 ml(2)	G or P	24 hrs.	-
Sulfate, as SO_4	mg/l	-	Cool at 4°C	50 ml	G or P	7 days	1
Sulfide, as S	mg/l	Fill bottle to exclude air	2 to 5 ml 2N Zinc acetate per liter and cool at 4°C	500 ml	G or P	24 hrs.	1
Sulfite, as SO_3	mg/l	Best done in field	No satisfactory method	50 ml	G or P	None	2
Surfactant (MBAS)	mg/l	-	Cool at 4°C	250 ml	G or P	24 hrs.	0.025
Thallium	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.14
Tin, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.50

000220

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time	Lower Detection Limit mg/l
Titanium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	1.0
Turbidity	Turbidity units	-	Cool at 4°C	100 ml(2)	G or P	7 days	-
Vanadium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.5
Zinc, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.004
Radioactivity							
Alpha, beta, and radium	-	-	Add HNO_3 to pH<2	2000 ml	G or P	6 mos.	-
Asbestos							
Water	-	Do not fill bottle completely	Add 1 ml 2.7% $HgCl_2$ and cool at 4°C	1000 ml	P only	Analyze as soon as possible	-
Solid	-	-	None required	100 grams	P only	-	-
Organics (GC)							
Purgeable, halocarbons (EPA Procedure 601)	PPB	Exclude air from bottle	Sodium thiosulfate if chlorinated Cool at 4°C	40 ml	G vial Teflon-lined septum	14 days	
Purgeable, aromatics (EPA Procedure 602)	PPB	Exclude air from bottle	HCl to pH2 sodium thiosulfate Cool at 4°C	40 ml	G vial Teflon-lined septum	7 days	
Acrolein/ Acrylonitrile (EPA Procedure 603)	PPB	Exclude air from bottle	NaOH/H_2SO_4 to pH 6.5-7.5 Cool at 4°C	40 ml	G vial Teflon-lined septum	3 days	

000230

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time
Phenols (EPA Procedure 604)	PPB	-	Sodium thiosulfate	1000 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
Benzidines (EPA Procedure 605)	PPB	-	N_2SO_4 to pH<2 and cool at 4°C	500 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
Phthalate esters (EPA Procedure 606)	PPB	-	NaOH/H_2SO_4 to pH 6-8 and cool at 4°C	500 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
Nitrosamines (EPA Procedure 607)	PPB	-	NaOH/N_2SO_4 to pH 7-10 and cool at 4°C	1000 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
Pesticides & PCBs (EPA Procedure 608)	PPB	-	Cool at 4°C Sodium thiosulfate NaOH/H_2SO_4 to pH 6-8	(2) 1000 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
Nitroaromatics & Isophorone (EPA Procedure 609)	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
Polynuclear Aromatic Hydrocarbons (EPA Procedure 610)	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
Haloethers	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
Chlorinated Hydrocarbons (EPA Procedure 611)	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
TCDD (Screening) (EPA Procedure 612)	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extractio 30 days (after extractio
Organics (GC/MS)						
Purgeables (EPA Procedure 624)	PPB	Exclude air from bottle	Sodium thiosulfate and cool at 4°C	40 ml	G vial Teflon-lined septum	14 days

000231

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time
Base Neutrals (EPA Procedure 625)	PPB	-	Sodium thiosulfate and cool at 4°C	1000 ml	G with Teflon cap	7 days (until extract 30 days (after extract
Acid Extractables (EPA Procedure 625)	PPB	-	Sodium thiosulfate, H_2SO_4 to pH<2 and cool at 4°C	1000 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
TCDD (EPA Procedure 612)	PPB	-	Cool at 4°C and sodium thiosulfate	1000 ml	G with Teflon cap	7 days (until extracti 30 days (after extracti
Pesticides/PCBs (EPA Procedure 625)	PPB	-	Sodium thiosulfate, H_2SO_4 to pH<2 and cool at 4°C	1000 ml (2)	G with Teflon cap	7 days (until extracti 30 days (after extracti

000232

* Metals	For trace metals, contamination and loss are of prime concern. Sample containers should be scrupulously clean. Avoid contamination with dust. A well-mixed appropriate volume of sample should be acidified to about pH2 with nitric acid (usually 5 ml of concentrated acid will suffice). For dissolved metals, samples should be filtered immediately on-site before adding preservative.

Footnotes

(1) The minimum sample volume given is for lower concentrations of the parameter under tests. For relatively high concentrations, smaller volumes may be sufficient.
(2) These tests are nondestructive, and the aliquots may be used for other tests not requiring specially preserved samples.

Protocol for microbiological, radiological, and organic parameters is based on proposed EPA Guidelines as published in the Dec. 19, 1979 Federal Register (40 CFR Part 136).

Preservation requirements for asbestos (in water) are based on the "Preliminary Interim Procedure for Fibrous Asbestos", U.S. EPA, Analytical Chemistry Branch, Athens, GA 30601.

All other analyses are based on protocol published in Chemical Methods for The Analysis of Water and Wastewater, U.S. EPA, 1974.

7/81 Rev.

000233

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APPENDIX G

BCM SAMPLING PROTOCOL

SAMPLING PROTOCOL

Samples from each of the monitoring wells were obtained using the following protocol:

1. Static water level in the well was measured using an electric well probe and tape measure.

2. The volume of standing water contained in the well was calculated.

3. If well yield permitted, five times the volume of water contained in the well was pumped with a gasoline-powered suction pump. Otherwise, the well was pumped dry three times.

4. The suction hose was disconnected from the pump and allowed to remain in the well. A new section of hose was used for each well.

5. The 2-1/2" x 3' teflon bailer and the millipore filtering device were cleaned in the following sequence:

   a. Washed with soap and water and rinsed with distilled, deionized water

   b. Washed with 100% methanol

   c. Washed with distilled, deionized water

   d. New cord placed on the bailer for each well

6. The first bail of sample retrieved from the well was discarded.

7. The sample was bailed and then filtered using a pressurized nitrogen gas filtering device utilizing filter paper with a 0.45-micron pore size.

8. The sample was placed in a 1-quart amber jar with a teflon-lined cap.

9. The bailing and filtering process was continued until 3 quarts of sample was obtained. If the water was very turbid, the filter paper was changed between each quart of sample. Otherwise, it was changed between wells.

10. Once tightly capped, the sample jars were rinsed with methanol and distilled, deionized water.

11. The sample jars were then labeled and placed on ice.

This process was repeated for each well sampled. Periodically during the sampling, field blanks were taken. A field blank was obtained via the same process as for a normal sample, except that distilled, deionized water rather than water from a monitoring well was placed in the bailer.

000236

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APPENDIX H

SOIL SAMPLING QC PROCEDURES

BCM

APPENDIX H

SOIL SAMPLING PROTOCOL

Samples of surface soil were obtained using the following protocol:

1. The area to be sampled was surveyed for general features such as areas of apparent contamination, areas of stressed vegetation, or other unique or unusual surficial features.

2. Specific areas where grab samples were to be obtained were noted based upon the observations of No. 1 above.

3. Previously cleaned, manually operated 3-inch-diameter stainless steel bucket augers were used to collect grab samples of surface soil from the surface to a depth of approximately 6 inches. Each grab sample obtained was placed in a previously cleaned white plastic 5-gallon bucket. A minimum of 12 such grab samples were placed into the 5-gallon bucket which then represented a composite sample from each area designated for sampling.

4. Upon collection of the last grab sample, the contents of the 5-gallon bucket were thouroghly mixed using a previously cleaned stainless steel trowel.

5. After thourough mixing, aliquot portions of the mixed composite soil samples were placed in amber glass pint jars which had been prepared by BCM Laboratory for priority pollutant sample collection and fitted with teflon lids. The appropriate number of aliquot samples were so collected to fit the analytical needs of the sampled areas.

6. Upon completion of the sample jar filling operation, the remaining portion of the composite soil sample was discarded and the 5-gallon bucket auger and trowel were thouroughly cleaned using a portable propane-fired high-pressure washer/steam cleaner.

7. This process was repeated for each soil sampling area.

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APPENDIX I

GLOSSARY OF TERMS

BCM

acid extractable compounds - compounds which are removable from water for chemical analysis after first removing the base neutral compounds, making the water strongly acid with sulfuric acid, and extracting with methylene chloride (see base neutral compounds).

alluvial - pertaining to water deposited sediments.

alluvium - a general term pertaining to all sediment deposits resulting from operations of modern river beds, flood plains, lakes at the foot of mountains, and estuaries.

annulus - the space between the earthen sides of a drilled well and the well casing.

aquifer - a body of rock below the earth's surface that contains sufficient satured permeable material to conduct groundwater and to yield significant quantities of groundwater to wells and springs.

background level - the concentration of a specific parameter before being impacted by a source (i.e., stack, industrial process land area, etc.)

background sample - sample taken near monitored location intended to reflect natural conditions.

BCM

basement complex - a general term for igneous or metamorphic rocks underneath younger sedimentary rocks.

base neutral compounds - compounds which are removable from water for chemical analysis after making the water strongly basic (alkaline) with sodium hydroxide and extracting with methylene chloride.

bedrock - solid rock underlying unconsolidated sediments.

bentonite pellet seal - impermeable seal created by clay pellets that swell when exposed to water.

boring - a drilled hole utilized to sample subsurface material.

chemical analysis - a test to determine the content of a given material.

composite sample - a sample combined from more than one location.

concentration - fraction of one material in another, usually expressed as weight per volume, volume per volume, or weight per weight.

Cretaceous age - geologic age, 75 to 125 million years ago, indicating when some sediments were deposited.

crystalline metamorphic rock - rock composed of mineral crystals altered by heat/or pressure.

dedicated equipment - sampling equipment assigned to a particular location to prevent potential cross contamination should the equipment be placed in several locations.

depositional environment - physical conditions during sedimentation.

BCM

downgradient - direction towards lower hydraulic potential. The direction in which groundwater is flowing.

drilling logs - written accounts of information obtained during the installation of a well. Typically includes a description of the geologic materials encountered and of the well construction.

Eckman grab samples - scooper-type device used to sample sediment from a steam or lake bottom.

environmental assessment - determination of biologic, air, water, and soil conditions based upon investigatory findings.

EPA Priority Pollutants - a group of 128 chemical substances listed by EPA because of potential for environmental or health problems when released into the environment.

evapotranspiration - water which is evaporated or transpired (consumed) by plants.

fall line - line depicting where the Piedmont geologic and Coastal Plain geologic Physiographic provinces meet. Streams crossing this line often exhibit low falls at the meeting points.

geophysical survey - exploration of an area using the instruments and methods of physics by observation of seismic or electrical currents.

glacial outwash - sediments deposited by meltwater streams beyond active glacier ice.

grid - the waste disposal area was sectioned into approximately 200 grids foot square for onsite sampling.

grid sampling - sampling a location at the intersections of a predetermined set of grid lines.

groundwater - water beneath the ground surface. Often used to refer to water in the saturated zone.

BCM

groundwater monitoring well - a well installed for the expressed purpose of sampling the groundwater and measuring the water table elevation.

groundwater table - the depth below which the ground is saturated with water.

hollow-stem auger - drilling rig that uses a hollow large diameter (screw-like) auger to drill holes.

humid climate - climate where precipitation exceeds evapo-transpiration.

hydraulic conductivity - a number which describes a sediment's ability to transmit water.

hydraulic gradient - the change in hydraulic pressure over a given distance in a given direction.

hydraulic potential - a number which reflects groundwater pressure and elevation.

hydrogeologic - concerning the interaction of groundwater and geologic setting.

hydrogeologic survey - study to characterize groundwater flow regime and the associated geologic setting.

impermeable material - a substance through which fluid cannot easily flow.

impervious - refers to material with a very low capacity to convey liquid.

induced recharge - infiltration of surface water into the ground as a result of nearby groundwater pumpage.

lag time - time delay between the response to an event and that event.

landfill - an area containing buried waste.

lateral dimensions - horizontal measurements.

BCM

lithology - the physical character of a rock.

magnetometer - an instrument used to measure magnetic intensity.

matrix detection limit - a dection limit determined for each organic compound for use with the TAGA system for each of the sampling procedures utilized. A blank or upwind sample was introduced via the particular sampling system employed.

method detection limit - a detection limit determined for each organic compound for use with the TAGA system. Traceable standards are introduced for the determination of maximum sensitivity of the instrument.

mica - a sheet-like mineral usually in little flakes.

monitoring station - a location where environmental sampling is conducted.

mud rotary drill rig - drilling rig that usew a rotating drill bit to drill holes. Mud is circulated through the hole to stabilize the hole sidewalls and remove cuttings.

organic compound - a chemical comound which contains carbon other than carbon dioxide derivatives.

outcrop - bedrock or other geologic material exposed at the surface.

overbank deposits - sediments deposited on a flood plain by floodwaters.

physiographic province - region of similar geologic structure that has had a unified geomorphic history.

physiographic region - region sharing a characteristic terrain.

piezometer - a small diameter well used to measure the groundwater level from a discrete underground zone.

BCM

Pleistocene age	- the earlier of the two Quaternary epochs during which glaciation occurred.
Precambrian age	- geologic time prior to 600 million years ago.
precipitation	- rain and snow.
protocol	- established procedure.
purgeable organic compounds	- compounds which are removable from water for chemical analysis by passing a stream of helium through the water.
Quaternary age	- a period of geologic time from 2 million years ago to present.
Recent age	- that period of geologic time since the last ice age (ten thousand years ago).
recharge areas	- land areas that contribute water to the groundwater (typically by infiltration of precipitation).
relief	- difference in elevation between two locations.
residues	- material remaining in place.
resistivity method	- observation of electrical potential and current distribution at the earth's surface intended to detect subsurface variations in resistivity (resistance to electrical current) which may be related to geology, groundwater quality, etc.).
river levee	- mounded portion of floodplain along stream channel created by overbank deposits.
river terrace	- elevated level area along stream or river - former floodplain.
sample preservatives	- chemicals used to maintain sample integrity between sampling and laboratory analysis.

BCM

saprolite - a soft, clay-rich thoroughly decomposed rock formed in place by natural chemical weathering of igneous or metamorphic rocks.

saprolite - a soft, clay-rich thoroughly decomposed rock formed in place by natural chemical breakdown of igneous or metamorphic rocks.

schedule 40 PVC casing - commonly used grade of polyvinyl chloride pipe.

screen - section of well casing of fine slots that allow the inflow of water.

sediment - soil or loose grains of geologic material often deposited along by or beneath a stream.

seep - location where groundwater is discharging to aboveground.

sewage treatment plant - facility that treats sewage.

Shelby tube samples - steel tube used to obtain undisturbed earth samples.

significant level - when the concentration level of an organic comound exceeds the Philadelphia Air Management Services guildines for Toxic Air Contaminants, the level is considered significant.

soil permeability - capacity of a soil to convey a liquid.

split-spoon sampling - obtaining earth samples with a hollow steel tube that splits open to allow sample.

subterranian - underground

surface water drainage system - a stream and its tributaries and the area drained by a river system.

surface soil samples - soil obtained from the ground's surface.

surface water - water occurring aboveground such as in streams, rivers, lakes, and man-made impoundments.

BCM

surface water runnoff - precipitation that drains directly into streams and rivers.

texture - size, shape, and arrangement of soil or rock particles.

tidal - water that rises and falls with the tides or stream that reverses direction of flow with tides.

topographic map - map depicting the grounds surface features using lines of equal elevation (contour lines).

unconformably - geologic material which does not succeed the underlying rock in immediate order of age and in parallel position.

unconsolidated sediment - loose sediment that is not cemented together; i.e., sand and gravel, but not rock.

undifferentiated - not sorted by grain size.

upgradient - direction towards greater hydraulic potential. The direction from which groundwater is flowing.

volatile organic compounds - compounds which are removable from water for chemical analysis by passing a stream of helium through the water.

watershed - land area drained by a stream and its tributaries.

water table - the upper surface of a zone of saturation.

water table contour - a line on a water table contour map denoting a particular elevation (hydraulic potential).

weathering - chemical and physical processes that cause rock to decay and crumble.

well - drilled hole and associated casing, screening, and grouting used to obtain groundwater.

BCM

APPENDIX J

SOILS ANALYTICAL RESULTS

000248

000249

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

	SITE: B-1 POTW	SITE: B-2 POTW	SITE: B-3 POTW	SITE:
	LAB#:	LAB#:	LAB#:	LAB#:
CATEGORY 1 PARAMETERS				
PH	SU			
CATEGORY 2 PARAMETERS				
BARIUM	MG/KG			
SULFIDE	MG/KG	40.0	15.0	11.0
BORON	MG/KG			
CHLORIDE	MG/KG			
FLUORIDE	MG/KG			
IRON	MG/KG			
FORMALDEHYDE	MG/KG	7.3	15.3	4.7
POTASSIUM	MG/KG			
MANGANESE	MG/KG			
SODIUM	MG/KG			
NITROGEN, AMMONIA	MG/KG			
NITRATE AS N	MG/KG			
TIN	MG/KG			
SULFATE AS SO4	MG/KG			
PHOSPHATE, TOTAL AS P	MG/KG			

TABLE 3-5

SUMMARY OF SOIL AND SHALLOW BORING SAMPLING AND ANALYSIS PROTOCOL

Sample Location/ Description*	No. of Grab Sample Aliquots in Composite	Date Collected	Depth Range (ft)	Analysis Categories **	BCM Lab No. TEP Leachate	BCM Lab No. Direct Analysis
Bristol Township Sewage Treatment Plant						
Boring B-1 Composite	7	10/26/83	1 - 9	1 - 5	14565	14564
Boring B-2 Composite	5	10/26/83	1 - 8	1 - 5	14567	14566
Boring B-3 Composite	6	10/26/83	1 - 9	1 - 5	14569	14568
Vegetated Soil	10 - 12	11/04/83	0 - 0.5	1 - 5	14619	14618
Bare Soil	10 - 12	11/04/83	0 - 0.5	1 - 5	14621	14620
Subsurface Waste	10 - 12	11/04/83	0 - 13	1 - 5	14623	14622
Surface Waste	6 - 8	11/10/83	Surface	1 - 5	14843	14839
Mosquito Control Commission Site ***						
Sample MCB-A	3	10/27/83	0 - 2	3+4 pest. only	14525	14524
Sample MCB-B	10	10/27/83	2 - 9	3+4 pest. only	14527	14526
Sample MCB-C	4	10/27/83	9 - 12	3+4 pest. only	14529	14528
Sample MCB-D	4	10/27/83	0 - 2	3+4 pest. only	14531	14530
Sample MCB-E	6	10/27/83	2 - 6	3+4 pest. only	14533	14532
Sample MCB-F	6	10/27/83	6 - 12	3+4 pest. only	14535	14534
Mary Devine School						
Soil No. 1	12 - 16	11/15/83	0 - 0.5	3+4+pH	---	14840
Soil No. 2	12 - 16	11/10/83	0 - 0.5	3+4+pH	---	14841
Baseball Fields						
Soil No. 1	12 - 16	11/15/83	0 - 0.5	3+4+pH	---	14628
Soil No. 2	12 - 16	11/10/83	0 - 0.5	3+4+pH	---	14842
North Perimeter						
NP-A	12 - 16	11/15/83	0 - 0.5	3+4+pH	---	14629
NP-B	12 - 16	11/15/83	0 - 0.5	3+4+pH	---	14630
NP-C	12 - 16	11/15/83	0 - 0.5	3+4+pH	---	14631
NP-D	12 - 16	11/15/83	0 - 0.5	3+4+pH	---	14632
Maple Beach Area						
MBE (Control)	20 - 24	11/03/83	0 - 0.5	3+4+pH	---	14578
MBW	30 - 36	11/03/83	0 - 0.5	3+4+pH	---	14577

* All samples are composites
** See Section 3.4.2
*** Composite samples found from four borings as follows:

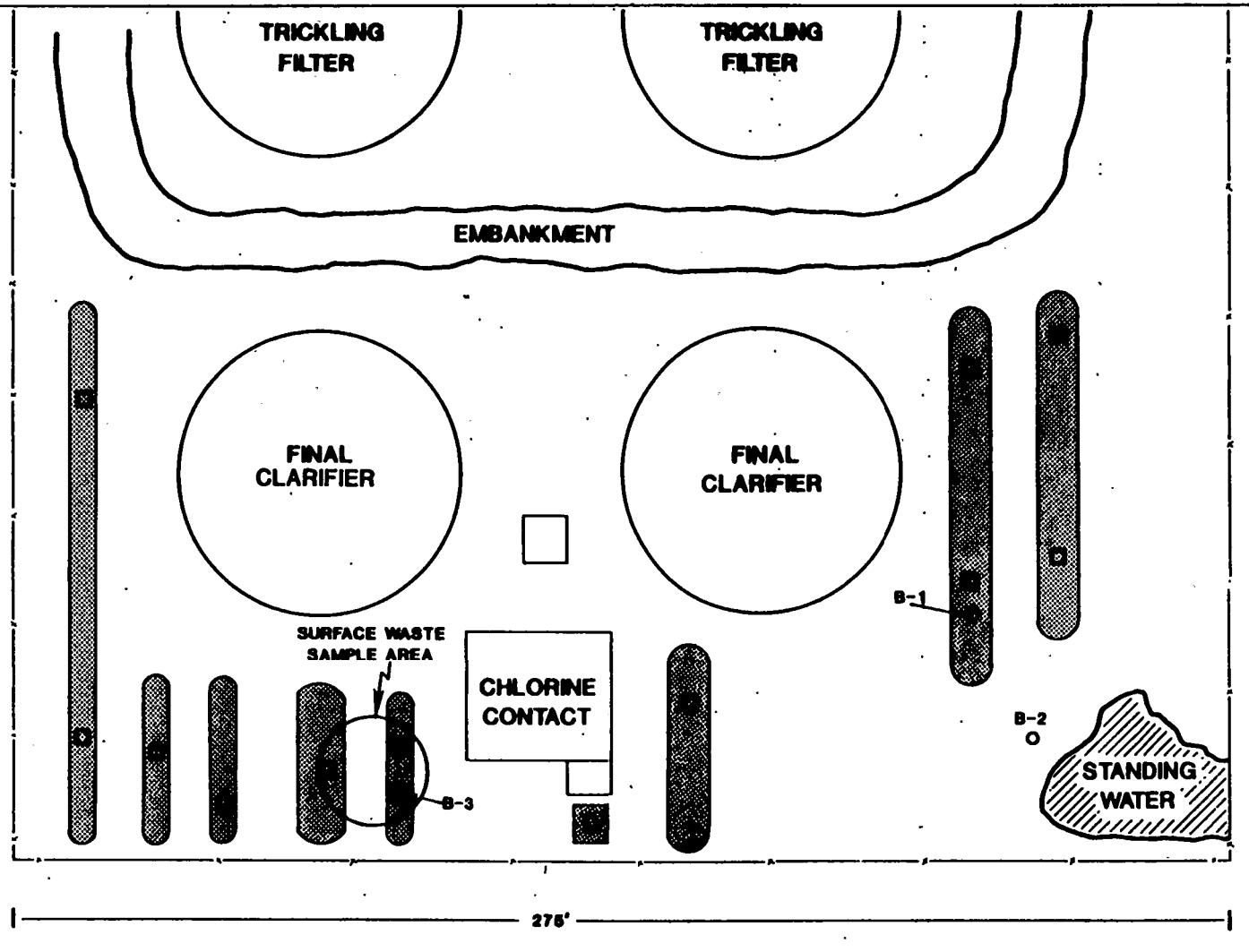
Sample MCB-A = Borings 1 + 4 (0 - 2 feet)
Sample MCB-B = Boring 1 (2 - 9 feet) + Boring 4 (2 - 8 feet)
Sample MCB-C = Boring 1 (9 - 12 feet) + Boring 4 (8 - 12 feet)
Sample MCB-D = Borings 2 + 3 (0 - 2 feet)
Sample MCB-E = Borings 2 + 3 (2 - 6 feet)
Sample MCB-F = Boring 2 (6 - 12 feet) + Boring 3 (6 - 10 feet)

Source: BCM Eastern, Inc.; Project No. 00-4061-02

000250

TS2000

BCM



LEGEND

- Fence
- Soil Boring Location
- Approx. Areas Indicative of Buried Waste
- Approx. Location of Subsurface Waste Grab Sample

Scale

0 25' (Approx.)

N

NOTES:

1. "Bare Soil" Samples Collected From Surface of Buried Waste Areas
2. "Vegetated Soil" Samples Collected From Surface at Random Over Entire Plant Site.
3. Figure 3-4 Corresponds to Table 3-5

BCM PROJECT NO. 00-4061-02
APRIL 1984

FIGURE 3-4
Rohm and Haas Company
LANDFILL INVESTIGATION
Bristol Township
Sewage [illegible]tment Plant
Sc[illegible]/Boring/
[illegible]ing Program

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

SITE: B-1 POTW	SITE: B-2 POTW	SITE: B-3 POTW	SITE:
LAB#:	LAB#:	LAB#:	LAB#:

CATEGORY 5 PARAMETERS

SURFACTANTS	MG/KG
OIL & GREASE	MG/KG
METHYL ETHYL KETONE	MG/KG
ISOBUTYL ALCOHOL	MG/KG
N-BUTYL ALCOHOL	MG/KG
ISOPROPYL ALCOHOL	MG/KG
ETHANOL	MG/KG
BUTYL METHACRYLATE	MG/KG
METHYL METHACRYLATE	MG/KG
ETHYL ACRYLATE	MG/KG
BUTYL ACRYLATE	MG/KG
STYRENE	MG/KG
ACETONE	MG/KG
ETHYL ACETATE	MG/KG
CELLUSOLVE ACETATE	MG/KG
BUTYL CELLUSOLVE	MG/KG
DITHANE	MG/KG
LETHANE	MG/KG
KARATHANE	MG/KG
DNCP	MG/KG

Category 3 - Parameters not tested as part of this study

002252

000253

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

	SITE: B-1 POTW	SITE: B-2 POTW	SITE: B-3 POTW	SITE:
	LAB#: N314564	LAB#: N314566	LAB#: N314568	LAB#:
CATEGORY 4 - OTHER POLLUTANTS PARAMETERS				
T16 SILVER	MG/KG			
T17 ARSENIC	MG/KG			
T18 BERYLLIUM	MG/KG			
T19 CADMIUM	MG/KG			
T20 CYANIDE	MG/KG			
T21 CHROMIUM	MG/KG			
T22 COPPER	MG/KG			
T23 MERCURY	MG/KG			
T24 LEAD	MG/KG			
T25 PHENOLS	MG/KG			
T26 ANTIMONY	MG/KG			
T27 SELENIUM	MG/KG			
T28 THALLIUM	MG/KG			
T29 ZINC	MG/KG			
T30 NICKEL	MG/KG			

Category 4 - Parameters not tested as part of this study

CATEGORY 4 - VOLATILES PARAMETERS				
V101 CHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0
V102 VINYL CHLORIDE	UG/KG	<10.0	<10.0	<10.0
V103 CHLOROETHANE	UG/KG	<10.0	<10.0	<10.0
V104 BROMOMETHANE	UG/KG	<10.0	<10.0	<10.0
V105 ACROLEIN	UG/KG	<100.0	<100.0	<100.0
V106 ACRYLONITRILE	UG/KG	<100.0	<100.0	<100.0
V107 METHYLENE CHLORIDE	UG/KG	<10.0	<10.0	43.0
V108 TRICHLOROFLUOROMETHANE	UG/KG	<10.0	<10.0	<10.0
V109 1,1-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0
V110 1,1-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0
V111 1,2-TRANS-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0
V112 CHLOROFORM	UG/KG	<10.0	<10.0	<10.0
V113 1,2-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0
V114 1,1,1-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0
V115 CARBON TETRACHLORIDE	UG/KG	<10.0	<10.0	<10.0
V116 BROMODICHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0
V117 1,2-DICHLOROPROPANE	UG/KG	<10.0	<10.0	<10.0
V118 TRANS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0
V119 TRICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: B-1 POTW LAB#: N314564	SITE: B-2 POTW LAB#: N314566	SITE: B-3 POTW LAB#: N314568	SITE: LAB#:
V120	BENZENE	UG/KG	<10.0	<10.0	100.0	
V121	CIS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	
V122	1,1,2-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	
V123	DIBROMOCHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	
V124	BROMOFORM	UG/KG	<10.0	<10.0	<10.0	
V125	TETRACHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	
V126	1,1,2,2-TETRACHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	
V127	TOLUENE	UG/KG	<10.0	<10.0	18.0	
V128	CHLOROBENZENE	UG/KG	<10.0	<10.0	<10.0	
V129	ETHYLBENZENE	UG/KG	<10.0	<10.0	<10.0	
V130	2-CHLOROETHYL VINYL ETHER	UG/KG	<10.0	<10.0	<10.0	

CATEGORY 4 - BASE/NEUTRAL PARAMETERS

B101	N-NITROSODIMETHYLAMINE	UG/KG	<200.0	<200.0	<2000.0
B102	BIS (2-CHLOROETHYL) ETHER	UG/KG	<200.0	<200.0	<2000.0
B103	1,3-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<2000.0
B104	1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<2000.0
B105	1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<2000.0
B106	BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0	<2000.0
B107	HEXACHLOROETHANE	UG/KG	<200.0	<200.0	<2000.0
B108	N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0	<2000.0
B109	NITROBENZENE	UG/KG	<200.0	<200.0	<2000.0
B110	ISOPHORONE	UG/KG	<200.0	<200.0	<2000.0
B111	BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0	<2000.0
B112	1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0	<2000.0
B113	NAPHTHALENE	UG/KG	<200.0	<200.0	<2000.0
B114	HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0	<2000.0
B115	HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0	<2000.0
B116	2-CHORONAPHTHALENE	UG/KG	<200.0	<200.0	<2000.0
B117	DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0	<2000.0
B118	ACENAPHTHYLENE	UG/KG	<200.0	<200.0	<2000.0
B119	2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0	<2000.0
B120	ACENAPHTHENE	UG/KG	<200.0	<200.0	<2000.0
B121	2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0	<2000.0
B122	DIETHYL PHTHALATE	UG/KG	<200.0	<200.0	<2000.0
B123	FLUORENE	UG/KG	<200.0	<200.0	<2000.0
B124	4-CHOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<2000.0
B125	N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0	<2000.0
B126	1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0	<2000.0
B127	4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<2000.0
B128	HEXACHLOROBENZENE	UG/KG	<200.0	<200.0	<2000.0

000254

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: B-1 POTW LAB#: N314564	SITE: B-2 POTW LAB#: N314566	SITE: B-3 POTW LAB#: N314568	SITE: LAB#:
B129	PHENANTHRENE	UG/KG	<200.0	<200.0	<2000.0	
B130	ANTHRACENE	UG/KG	<200.0	<200.0	<2000.0	
B131	DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<200.0	<2000.0	
B132	FLUORANTHENE	UG/KG	<200.0	<200.0	<2000.0	
B133	BENZIDINE	UG/KG	<200.0	<200.0	<2000.0	
B134	PYRENE	UG/KG	<200.0	<200.0	<2000.0	
B135	BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0	<2000.0	
B136	BENZO (A) ANTHRACENE	UG/KG	<200.0	<200.0	<2000.0	
B137	3,3'-DICHLOROVENZIDINE	UG/KG	<200.0	<200.0	<2000.0	
B138	CHRYSENE	UG/KG	<200.0	<200.0	<2000.0	
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0	<2000.0	
B140	DI-N-OCTYL PHTHALATE	UG/KG	<200.0	<200.0	<2000.0	
B141	BENZO(B)FLOURANTHENE	UG/KG	<200.0	<200.0	<2000.0	
B142	BENZO (K) FLUORANTHENE	UG/KG	<200.0	<200.0	<2000.0	
B143	BENZO (A) PYRENE	UG/KG	<500.0	<500.0	<2000.0	
B144	INDENO (1,2,3-CD) PYRENE	UG/KG	<500.0	<500.0	<5000.0	
B145	DIBENZO (A,H) ANTHRACENE	UG/KG	<500.0	<500.0	<5000.0	
B146	BENZO (GHI) PERYLENE	UG/KG	<500.0	<500.0	<5000.0	
	CATEGORY 4 - ACIDS	PARAMETERS				
A101	PHENOL	UG/KG	<500.0	<500.0	<4000.0	
A102	2-CHLOROPHENOL	UG/KG	<500.0	<500.0	<4000.0	
A103	2-NITROPHENOL	UG/KG	<500.0	<500.0	<4000.0	
A104	2,4-DIMETHYLPHENOL	UG/KG	<500.0	<500.0	10000.0	
A105	2,4-DICHLOROPHENOL	UG/KG	<500.0	<500.0	<4000.0	
A106	P-CHLORO-M-CRESOL	UG/KG	<500.0	<500.0	<4000.0	
A107	2,4,6-TRICHLOROPHENOL	UG/KG	<500.0	<500.0	<4000.0	
A108	2,4-DINITROPHENOL	UG/KG	<5000.0	<5000.0	<40000.0	
A109	4-NITROPHENOL	UG/KG	<500.0	<500.0	<4000.0	
A110	4,6-DINITRO-O-CRESOL	UG/KG	<5000.0	<5000.0	<40000.0	
A111	PENTACHLOROPHENOL	UG/KG	<500.0	<500.0	<4000.0	

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

		SITE: B-1 POTW	SITE: B-2 POTW	SITE: B-3 POTW	SITE:
		LAB#: N314564	LAB#: N314566	LAB#: N314568	LAB#:
	CATEGORY 4 - PESTICIDES PARAMETERS				
P101	ALDRIN	UG/KG	<200.0	<200.0	<2000.0
P102	ALPHA-BHC	UG/KG	<200.0	<200.0	<2000.0
P103	BETA-BHC	UG/KG	<200.0	<200.0	<2000.0
P104	GAMMA-BHC	UG/KG	<200.0	<200.0	<2000.0
P105	DELTA-BHC	UG/KG	<200.0	<200.0	<2000.0
P106	CHLORDANE	UG/KG	<200.0	<200.0	<2000.0
P107	4,4'-DDT	UG/KG	<200.0	<200.0	<2000.0
P108	4,4'-DDE	UG/KG	<200.0	<200.0	<2000.0
P109	4,4'-DDD	UG/KG	<200.0	<200.0	<2000.0
P110	DIELDRIN	UG/KG	<200.0	<200.0	<2000.0
P111	ALPHA-ENDOSULFAN	UG/KG	<200.0	<200.0	<2000.0
P112	BETA-ENDOSULFAN	UG/KG	<200.0	<200.0	<2000.0
P113	ENDOSULFAN SULFATE	UG/KG	<200.0	<200.0	<2000.0
P114	ENDRIN	UG/KG	<200.0	<200.0	<2000.0
P115	ENDRIN ALDEHYDE	UG/KG	<200.0	<200.0	<2000.0
P116	HEPTACHLOR	UG/KG	<200.0	<200.0	<2000.0
P117	HEPTACHLOR EPOXIDE	UG/KG	<200.0	<200.0	<2000.0
P118	PCB-1242	UG/KG	<200.0	<200.0	<2000.0
P119	PCB-1254	UG/KG	<200.0	<200.0	<2000.0
P120	PCB-1221	UG/KG	<200.0	<200.0	<2000.0
P121	PCB-1232	UG/KG	<200.0	<200.0	<2000.0
P122	PCB-1248	UG/KG	<200.0	<200.0	<2000.0
P123	PCB-1260	UG/KG	<200.0	<200.0	<2000.0
P124	PCB-1016	UG/KG	<200.0	<200.0	<2000.0
P125	TOXAPHENE	UG/KG	<200.0	<200.0	<2000.0
P126	2,4-D	UG/KG			
P127	2,4,5-TP	UG/KG			

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L
GROSS B RADIOACTIVITY	PC I/L
TOTAL RADIUM	PC I/L

Category 5 - Parameters not tested as part of this study

000256

000257

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

		SITE: VS	SITE: BS	SITE: WASTE	SITE: POTW SUR
		LAB#: N314618	LAB#: N314620	LAB#: N314622	LAB#:
CATEGORY 1 PARAMETERS					
PH	SU	7.0	9.5	8.7	9.8
CATEGORY 2 PARAMETERS					
BARIUM	MG/KG	36.6	26.4	11.0	5.38
SULFIDE	MG/KG	19.0	11.0	35.0	17.0
BORON	MG/KG	.4	1.19	1.0	2.8
CHLORIDE	MG/KG	34.7	156.0	488.0	68.2
FLUORIDE	MG/KG	.435	.338	.45	2.51
IRON	MG/KG	2032.0	3489.0	3605.0	811.0
FORMALDEHYDE	MG/KG	14.2	8.2	4.7	1.09
POTASSIUM	MG/KG	250.0	410.0	341.0	190.0
MANGANESE	MG/KG	150.0	185.0	86.8	20.4
SODIUM	MG/KG	27.8	1741.0	8474.0	35223.0
NITROGEN, AMMONIA	MG/KG	12.5	2.31	443.0	<1.82
NITRATE AS N	MG/KG	8.43	19.1	.44	3.53
TIN	MG/KG	<30.0	<30.0	<30.0	<30.0
SULFATE AS SO4	MG/KG	<33.4	<292.03	156.43	20.63
PHOSPHATE, TOTAL AS P	MG/KG	473.0	402.0	3534.0	183.0

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

		SITE: VS LAB#: N314618	SITE: BS LAB#: N314620	SITE: WASTE LAB#: N314622	SITE: POTW SUR LAB#: N314839
CATEGORY 3 PARAMETERS					
SURFACTANTS	MG/KG	8.68	4.0	3.33	8.16
OIL & GREASE	MG/KG	.113	.047	4.9	12.15
METHYL ETHYL KETONE	MG/KG	<.1	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/KG	14.3	43.7	120.0	2.9
N-BUTYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
ISOPROPYL ALCOHOL	MG/KG	.1	.3	1.3	<.1
ETHANOL	MG/KG	<.1	<.1	<.1	<.1
BUTYL METHACRYLATE	MG/KG	<10.0	<10.0	<10.0	<10.0
METHYL METHACRYLATE	MG/KG	<.1	<.1	<.1	<.1
ETHYL ACRYLATE	MG/KG	3.3	2.4	3.7	1.3
BUTYL ACRYLATE	MG/KG	<.1	<.1	<.1	<.1
STYRENE	MG/KG	<.1	<.1	<.1	<.1
ACETONE	MG/KG	<.1	<.1	<.1	<.1
ETHYL ACETATE	MG/KG	<.1	<.1	<.1	<.1
CELLUSOLVE ACETATE	MG/KG	<.1	<.1	<.1	<.1
BUTYL CELLUSOLVE	MG/KG	<.1	<.1	<.1	<.1
DITHANE	MG/KG				
LETHANE	MG/KG	<.01	<.01	<.01	<.01
KARATHANE	MG/KG	<.01	<.01	<.01	<.01
DNCP	MG/KG	<.01	<.01	<.01	<.01

000258

000259

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: VS LAB#: N314618	SITE: BS LAB#: N314620	SITE: WASTE LAB#: N314622	SITE: POTW SUR LAB#: N314639
CATEGORY 4 - OTHER POLLUTANTS PARAMETERS						
T16	SILVER	MG/KG	<.8	<.8	<.8	<.96
T17	ARSENIC	MG/KG	2.3	2.76	1.4	.35
T18	BERYLLIUM	MG/KG	<.4	<.4	<.4	<.48
T19	CADMIUM	MG/KG	<.4	<.4	<.4	<.48
T20	CYANIDE	MG/KG	<.073	<.077	<.073	<.298
T21	CHROMIUM	MG/KG	<1.6	<1.6	7.51	<2.0
T22	COPPER	MG/KG	24.4	10.7	7.19	16.9
T23	MERCURY	MG/KG	<.1	<.1	<.1	<.1
T24	LEAD	MG/KG	15.2	5.58	<4.8	<5.8
T25	PHENOLS	MG/KG	.379	.625	11.9	<.885
T26	ANTIMONY	MG/KG	<6.0	<6.0	<6.0	<8.5
T27	SELENIUM	MG/KG	<.04	<.04	<.04	<.048
T28	THALLIUM	MG/KG	<12.0	<12.0	<12.0	<15.0
T29	ZINC	MG/KG	52.1	35.9	56.0	8.51
T30	NICKEL	MG/KG	6.69	6.69	5.4	<5.0
CATEGORY 4 - VOLATILES PARAMETERS						
V101	CHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V102	VINYL CHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0
V103	CHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V104	BROMOMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V105	ACROLEIN	UG/KG	<100.0	<100.0	<100.0	<100.0
V106	ACRYLONITRILE	UG/KG	<100.0	<100.0	<100.0	<100.0
V107	METHYLENE CHLORIDE	UG/KG	<10.0	13.0	95.0	10.0
V108	TRICHLOROFLUOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V109	1,1-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V110	1,1-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V111	1,2-TRANS-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	90.0	<10.0
V112	CHLOROFORM	UG/KG	<10.0	<10.0	<10.0	<10.0
V113	1,2-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V114	1,1,1-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V115	CARBON TETRACHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0
V116	BROMODICHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V117	1,2-DICHLOROPROPANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V118	TRANS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V119	TRICHLOROETHYLENE	UG/KG	<10.0	<10.0	12.0	<10.0

000260

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: VS LAB#: N314618	SITE: BS LAB#: N314620	SITE: WASTE LAB#: N314622	SITE: POTW SUR LAB#: N314839
V120	BENZENE	UG/KG	<10.0	<10.0	200.0	<10.0
V121	CIS-1,3-DICHLOROPHOPENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V122	1,1,2-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V123	DIBROMOCHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V124	BROMOFORM	UG/KG	<10.0	<10.0	<10.0	<10.0
V125	TETRACHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V126	1,1,2,2-TETRACHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V127	TOLUENE	UG/KG	<10.0	<10.0	800.0	<10.0
V128	CHLOROBENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V129	ETHYLBENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V130	2-CHLOROETHYL VINYL ETHER	UG/KG	<10.0	<10.0	<10.0	<10.0
	CATEGORY 4 - BASE/NEUTRAL PARAMETERS					
B101	N-NITROSODIMETHYLAMINE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B102	BIS (2-CHLOROETHYL) ETHER	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B103	1,3-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B104	1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B105	1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B106	BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B107	HEXACHLOROETHANE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B108	N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B109	NITROBENZENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B110	ISOPHORONE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B111	BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B112	1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B113	NAPHTHALENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B114	HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B115	HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B116	2-CHORONAPHTHALENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B117	DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B118	ACENAPHTHYLENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B119	2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B120	ACENAPHTHENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B121	2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B122	DIETHYL PHTHALATE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B123	FLUORENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B124	4-CHOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B125	N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B126	1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B127	4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B128	HEXACHLOROBENZENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0

000261

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: VS LAB#: N314618	SITE: BS LAB#: N314620	SITE: WASTE LAB#: N314622	SITE: POTW SUR LAB#: N314839
B129	PHENANTHRENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B130	ANTHRACENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B131	DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<420.0	<8000.0	<60000.0
B132	FLUORANTHENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B133	BENZIDINE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B134	PYRENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B135	BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B136	BENZO (A) ANTHRACENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B137	3,3'-DICHLOROVENZIDINE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B138	CHRYSENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B140	DI-N-OCTYL PHTHALATE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B141	BENZO(B)FLOURANTHENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B142	BENZO (K) FLUORANTHENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B143	BENZO (A) PYRENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
B144	INDENO (1,2,3-CD) PYRENE	UG/KG	<500.0	<500.0	<20000.0	<1500000.0
B145	DIBENZO (A,H) ANTHRACENE	UG/KG	<500.0	<500.0	<20000.0	<1500000.0
B146	BENZO (GHI) PERYLENE	UG/KG	<500.0	<500.0	<20000.0	<1500000.0
	CATEGORY 4 - ACIDS	PARAMETERS				
A101	PHENOL	UG/KG	<500.0	<500.0	<15000.0	
					<5000.0	
A102	2-CHLOROPHENOL	UG/KG	<500.0	<500.0	<15000.0	
					<5000.0	
A103	2-NITROPHENOL	UG/KG	<500.0	<500.0	<15000.0	
					<5000.0	
A104	2,4-DIMETHYLPHENOL	UG/KG	<500.0	<500.0	<15000.0	
					13000.0	
A105	2,4-DICHLOROPHENOL	UG/KG	<500.0	<500.0	<15000.0	
					<5000.0	
A106	P-CHLORO-M-CRESOL	UG/KG	<500.0	<500.0	<15000.0	
					<5000.0	
A107	2,4,6-TRICHLOROPHENOL	UG/KG	<500.0	<500.0	<15000.0	
					<5000.0	
A108	2,4-DINITROPHENOL	UG/KG	<5000.0	<5000.0	<150000.0	
					<50000.0	
A109	4-NITROPHENOL	UG/KG	<500.0	<500.0	<15000.0	
					<5000.0	
A110	4,6-DINITRO-O-CRESOL	UG/KG	<5000.0	<5000.0	<150000.0	
					<50000.0	
A111	PENTACHLOROPHENOL	UG/KG	<500.0	<500.0	<15000.0	
					<5000.0	

000262

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

		SITE: VS LAB#: N314618	SITE: BS LAB#: N314620	SITE: WASTE LAB#: N314622	SITE: POTW SUR LAB#: N314839
CATEGORY 4 - PESTICIDES	**PARAMETERS**				
P101 ALDRIN	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P102 ALPHA-BHC	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P103 BETA-BHC	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P104 GAMMA-BHC	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P105 DELTA-BHC	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P106 CHLORDANE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P107 4,4'-DDT	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P108 4,4'-DDE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P109 4,4'-DDD	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P110 DIELDRIN	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P111 ALPHA-ENDOSULFAN	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P112 BETA-ENDOSULFAN	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P113 ENDOSULFAN SULFATE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P114 ENDRIN	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P115 ENDRIN ALDEHYDE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P116 HEPTACHLOR	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P117 HEPTACHLOR EPOXIDE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P118 PCB-1242	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P119 PCB-1254	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P120 PCB-1221	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P121 PCB-1232	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P122 PCB-1248	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P123 PCB-1260	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P124 PCB-1016	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P125 TOXAPHENE	UG/KG	<200.0	<200.0	<8000.0	<60000.0
P126 2,4-D	UG/KG	<.2	<.2	<.2	<.2
P127 2,4,5-TP	UG/KG	<.2	<.2	<.2	<.2
CATEGORY 5 PARAMETERS					
GROSS A RADIOACTIVITY	PC I/L	53.4	55.0	52.7	52.3
GROSS B RADIOACTIVITY	PC I/L	54.6	56.8	52.3	53.8
TOTAL RADIUM	PC I/L	1.8	1.6	1.8	1.2

000262

000263

MOSQUITO COMMISSION SITE
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

	SITE: MCB-A LAB#: N314524	SITE: MCB-B LAB#: N314526	SITE: MCB-C LAB#: N314528	SITE: LAB#:
CATEGORY 3 PARAMETERS				
SURFACTANTS	MG/KG			
OIL & GREASE	MG/KG			
METHYL ETHYL KETONE	MG/KG		<.1	
ISOBUTYL ALCOHOL	MG/KG		6.1	
N-BUTYL ALCOHOL	MG/KG		<.1	
ISOPROPYL ALCOHOL	MG/KG		<.1	
ETHANOL	MG/KG		<.1	
BUTYL METHACRYLATE	MG/KG		<10.0	
METHYL METHACRYLATE	MG/KG		<.1	
ETHYL ACRYLATE	MG/KG		5.8	
BUTYL ACRYLATE	MG/KG		<.1	
STYRENE	MG/KG		<.1	
ACETONE	MG/KG		<.1	
ETHYL ACETATE	MG/KG		<.1	
CELLUSOLVE ACETATE	MG/KG		<.1	
BUTYL CELLUSOLVE	MG/KG		<.1	
DITHANE	MG/KG			
LETHANE	MG/KG	<.01	<.01	<.01
KARATHANE	MG/KG	<.1	<.1	<.1
DNCP	MG/KG	<.1	<.1	<.1

MOSQUITO COMMISSION SITE
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

		SITE: MCB-A LAB#: N314524	SITE: MCB-B LAB#: N314526	SITE: MCB-C LAB#: N314528	SITE: LAB#:
CATEGORY 4 - PESTICIDES	PARAMETERS				
P101	ALDRIN	UG/KG	<2.0	<2.0	<2.0
P102	ALPHA-BHC	UG/KG	<2.0	<2.0	<2.0
P103	BETA-BHC	UG/KG	2.9	<2.0	<2.0
P104	GAMMA-BHC	UG/KG	<2.0	<2.0	<2.0
P105	DELTA-BHC	UG/KG	<2.0	<2.0	<2.0
P106	CHLORDANE	UG/KG	<2.0	<2.0	<2.0
P107	4,4'-DDT	UG/KG	880.0	3.7	4.8
P108	4,4'-DDE	UG/KG	57.0	<2.0	<2.0
P109	4,4'-DDD	UG/KG	74.0	<2.0	<2.0
P110	DIELDRIN	UG/KG	<2.0	<2.0	<2.0
P111	ALPHA-ENDOSULFAN	UG/KG	<2.0	<2.0	<2.0
P112	BETA-ENDOSULFAN	UG/KG	<2.0	<2.0	<2.0
P113	ENDOSULFAN SULFATE	UG/KG	<2.0	<2.0	<2.0
P114	ENDRIN	UG/KG	<2.0	<2.0	<2.0
P115	ENDRIN ALDEHYDE	UG/KG	<2.0	<2.0	<2.0
P116	HEPTACHLOR	UG/KG	<2.0	<2.0	<2.0
P117	HEPTACHLOR EPOXIDE	UG/KG	<2.0	<2.0	<2.0
P118	PCB-1242	UG/KG	<20.0	<20.0	<20.0
P119	PCB-1254	UG/KG	<20.0	<20.0	<20.0
P120	PCB-1221	UG/KG	<20.0	<20.0	<20.0
P121	PCB-1232	UG/KG	<20.0	<20.0	<20.0
P122	PCB-1248	UG/KG	<20.0	<20.0	<20.0
P123	PCB-1260	UG/KG	<20.0	<20.0	<20.0
P124	PCB-1016	UG/KG	<20.0	<20.0	<20.0
P125	TOXAPHENE	UG/KG	<20.0	<20.0	<20.0
P126	2,4-D	UG/KG	<.2	<.2	
P127	2,4,5-TP	UG/KG	<.1	<.1	

000264

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MOSQUITO COMMISSION SITE
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

	SITE: MCB-D	SITE: MCB-E	SITE: MCB-F	SITE:
	LAB#: N314530	LAB#: N314532	LAB#: N314534	LAB#:
CATEGORY 3 PARAMETERS				
SURFACTANTS	MG/KG			
OIL & GREASE	MG/KG			
METHYL ETHYL KETONE	MG/KG		<.1	
ISOBUTYL ALCOHOL	MG/KG		40.6	
N-BUTYL ALCOHOL	MG/KG		<.1	
ISOPROPYL ALCOHOL	MG/KG		<.1	
ETHANOL	MG/KG		<.1	
BUTYL METHACRYLATE	MG/KG		<10.0	
METHYL METHACRYLATE	MG/KG		<.1	
ETHYL ACRYLATE	MG/KG		<.1	
BUTYL ACRYLATE	MG/KG		<.1	
STYRENE	MG/KG		<.1	
ACETONE	MG/KG		<.1	
ETHYL ACETATE	MG/KG		<.1	
CELLUSOLVE ACETATE	MG/KG		<.1	
BUTYL CELLUSOLVE	MG/KG		<.1	
DITHANE	MG/KG			
LETHANE	MG/KG	<.1	<.01	<.01
KARATHANE	MG/KG	<.1	<.01	<.1
DNCP	MG/KG	<.1	<.01	<.1

MOSQUITO COMMISSION SITE
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

		SITE: MCB-D	SITE: MCB-E	SITE: MCB-F	SITE:
		LAB#: N314530	LAB#: N314532	LAB#: N314534	LAB#:
CATEGORY 4 - PESTICIDES	PARAMETERS				
P101	ALDRIN	UG/KG	<2.0	<2.0	<2.0
P102	ALPHA-BHC	UG/KG	<2.0	<2.0	<2.0
P103	BETA-BHC	UG/KG	<2.0	<2.0	<2.0
P104	GAMMA-BHC	UG/KG	<2.0	<2.0	<2.0
P105	DELTA-BHC	UG/KG	<2.0	<2.0	<2.0
P106	CHLORDANE	UG/KG	<2.0	<2.0	<2.0
P107	4,4'-DDT	UG/KG	<2.0	<2.0	<2.0
P108	4,4'-DDE	UG/KG	<2.0	<2.0	<2.0
P109	4,4'-DDD	UG/KG	<2.0	<2.0	3.3
P110	DIELDRIN	UG/KG	<2.0	<2.0	<2.0
P111	ALPHA-ENDOSULFAN	UG/KG	<2.0	<2.0	<2.0
P112	BETA-ENDOSULFAN	UG/KG	<2.0	<2.0	<2.0
P113	ENDOSULFAN SULFATE	UG/KG	<2.0	<2.0	<2.0
P114	ENDRIN	UG/KG	<2.0	<2.0	<2.0
P115	ENDRIN ALDEHYDE	UG/KG	<2.0	<2.0	<2.0
P116	HEPTACHLOR	UG/KG	<2.0	<2.0	<2.0
P117	HEPTACHLOR EPOXIDE	UG/KG	<2.0	<2.0	<2.0
P118	PCB-1242	UG/KG	<20.0	<20.0	<20.0
P119	PCB-1254	UG/KG	<20.0	<20.0	<20.0
P120	PCB-1221	UG/KG	<20.0	<20.0	<20.0
P121	PCB-1232	UG/KG	<20.0	<20.0	<20.0
P122	PCB-1248	UG/KG	<20.0	<20.0	<20.0
P123	PCB-1260	UG/KG	<20.0	<20.0	<20.0
P124	PCB-1016	UG/KG	<20.0	<20.0	<20.0
P125	TOXAPHENE	UG/KG	<20.0	<20.0	<20.0
P126	2,4-D	UG/KG	<.2	<.2	<.2
P127	2,4,5-TP	UG/KG	<.1	<.1	<.1

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000267

MARY DEVINE SCHOOL
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY; INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

	SITE: MDS-1 LAB#: N314840	SITE: MDS-2 LAB#: N314841	SITE: LAB#:	SITE: LAB#:
CATEGORY 3 PARAMETERS				
SURFACTANTS	MG/KG	.857	.747	
OIL & GREASE	MG/KG	.04	1.33	
METHYL ETHYL KETONE	MG/KG	<.1	<.1	
ISOBUTYL ALCOHOL	MG/KG	3.7	4.0	
N-BUTYL ALCOHOL	MG/KG	<.1	<.1	
ISOPROPYL ALCOHOL	MG/KG	<.1	<.1	
ETHANOL	MG/KG	<.1	<.1	
BUTYL METHACRYLATE	MG/KG	<10.0	<10.0	
METHYL METHACRYLATE	MG/KG	<.1	<.1	
ETHYL ACRYLATE	MG/KG	1.9	1.9	
BUTYL ACRYLATE	MG/KG	<.1	<.1	
STYRENE	MG/KG	<.1	<.1	
ACETONE	MG/KG	<.1	<.1	
ETHYL ACETATE	MG/KG	<.1	<.1	
CELLUSOLVE ACETATE	MG/KG	<.1	<.1	
BUTYL CELLUSOLVE	MG/KG	<.1	<.1	
DITHANE	MG/KG			
LETHANE	MG/KG	<.01	<.01	
KARATHANE	MG/KG	<.01	<.01	
DNCP	MG/KG	<.01	<.01	

892008

MARY DEVINE SCHOOL
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

		SITE: MDS-1	SITE: MDS-2	SITE:	SITE:
		LAB#: N314840	LAB#: N314841	LAB#:	LAB#:
	CATEGORY 4 - OTHER POLLUTANTS PARAMETERS				
T16	SILVER	MG/KG	<1.0	<1.0	
T17	ARSENIC	MG/KG	2.9	2.32	
T18	BERYLLIUM	MG/KG	<.5	<.5	
T19	CADMIUM	MG/KG	<.5	<.5	
T20	CYANIDE	MG/KG	<.154	<.155	
T21	CHROMIUM	MG/KG	<2.0	<2.0	
T22	COPPER	MG/KG	6.77	7.21	
T23	MERCURY	MG/KG	<.1	<.1	
T24	LEAD	MG/KG	28.5	25.5	
T25	PHENOLS	MG/KG	.586	.596	
T26	ANTIMONY	MG/KG	<8.5	<8.5	
T27	SELENIUM	MG/KG	<.05	.067	
T28	THALLIUM	MG/KG	<15.0	<15.0	
T29	ZINC	MG/KG	35.0	25.0	
T30	NICKEL	MG/KG			
	CATEGORY 4 - VOLATILES PARAMETERS				
V101	CHLOROMETHANE	UG/KG	<10.0	<10.0	
V102	VINYL CHLORIDE	UG/KG	<10.0	<10.0	
V103	CHLOROETHANE	UG/KG	<10.0	<10.0	
V104	BROMOMETHANE	UG/KG	<10.0	<10.0	
V105	ACROLEIN	UG/KG	<100.0	<100.0	
V106	ACRYLONITRILE	UG/KG	<100.0	<100.0	
V107	METHYLENE CHLORIDE	UG/KG	<10.0	11.0	
V108	TRICHLOROFLUOROMETHANE	UG/KG	<10.0	<10.0	
V109	1,1-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	
V110	1,1-DICHLOROETHANE	UG/KG	<10.0	<10.0	
V111	1,2-TRANS-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	
V112	CHLOROFORM	UG/KG	<10.0	<10.0	
V113	1,2-DICHLOROETHANE	UG/KG	<10.0	<10.0	
V114	1,1,1-TRICHLOROETHANE	UG/KG	<10.0	<10.0	
V115	CARBON TETRACHLORIDE	UG/KG	<10.0	<10.0	
V116	BROMODICHLOROMETHANE	UG/KG	<10.0	<10.0	
V117	1,2-DICHLOROPROPANE	UG/KG	<10.0	<10.0	
V118	TRANS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	
V119	TRICHLOROETHYLENE	UG/KG	<10.0	<10.0	

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MARY DEVINE SCHOOL
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: MDS-1 LAB#: N314840	SITE: MDS-2 LAB#: N314841	SITE: LAB#:	SITE: LAB#:
V120	BENZENE	UG/KG	<10.0	<10.0		
V121	CIS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0		
V122	1,1,2-TRICHLOROETHANE	UG/KG	<10.0	<10.0		
V123	DIBROMOCHLOROMETHANE	UG/KG	<10.0	<10.0		
V124	BROMOFORM	UG/KG	<10.0	<10.0		
V125	TETRACHLOROETHYLENE	UG/KG	<10.0	<10.0		
V126	1,1,2,2-TETRACHLOROETHANE	UG/KG	<10.0	<10.0		
V127	TOLUENE	UG/KG	<10.0	<10.0		
V128	CHLOROBENZENE	UG/KG	<10.0	<10.0		
V129	ETHYLBENZENE	UG/KG	<10.0	<10.0		
V130	2-CHLOROETHYL VINYL ETHER	UG/KG	<10.0	<10.0		
	CATEGORY 4 - BASE/NEUTRAL PARAMETERS					
B101	N-NITROSODIMETHYLAMINE	UG/KG	<200.0	<200.0		
B102	BIS (2-CHLOROETHYL) ETHER	UG/KG	<200.0	<200.0		
B103	1,3-DICHLOROBENZENE	UG/KG	<200.0	<200.0		
B104	1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0		
B105	1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0		
B106	BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0		
B107	HEXACHLOROETHANE	UG/KG	<200.0	<200.0		
B108	N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0		
B109	NITROBENZENE	UG/KG	<200.0	<200.0		
B110	ISOPHORONE	UG/KG	<200.0	<200.0		
B111	BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0		
B112	1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0		
B113	NAPHTHALENE	UG/KG	<200.0	<200.0		
B114	HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0		
B115	HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0		
B116	2-CHORONAPHTHALENE	UG/KG	<200.0	<200.0		
B117	DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0		
B118	ACENAPHTHYLENE	UG/KG	<200.0	<200.0		
B119	2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0		
B120	ACENAPHTHENE	UG/KG	<200.0	<200.0		
B121	2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0		
B122	DIETHYL PHTHALATE	UG/KG	<200.0	<200.0		
B123	FLUORENE	UG/KG	<200.0	<200.0		
B124	4-CHLOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0		
B125	N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0		
B126	1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0		
B127	4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0		
B128	HEXACHLOROBENZENE	UG/KG	<200.0	<200.0		

MARY DEVINE SCHOOL
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: MDS-1 LAB#: N314840	SITE: MDS-2 LAB#: N314841	SITE: LAB#:	SITE: LAB#:
B129	PHENANTHRENE	UG/KG	<200.0	<200.0		
B130	ANTHRACENE	UG/KG	<200.0	<200.0		
B131	DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<200.0		
B132	FLUORANTHENE	UG/KG	<200.0	<200.0		
B133	BENZIDINE	UG/KG	<200.0	<200.0		
B134	PYRENE	UG/KG	<200.0	<200.0		
B135	BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0		
B136	BENZO (A) ANTHRACENE	UG/KG	<200.0	<200.0		
B137	3,3'-DICHLOROVENZIDINE	UG/KG	<200.0	<200.0		
B138	CHRYSENE	UG/KG	<200.0	<200.0		
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0		
B140	DI-N-OCTYL PHTHALATE	UG/KG	<200.0	<200.0		
B141	BENZO(B)FLOURANTHENE	UG/KG	<200.0	<200.0		
B142	BENZO (K) FLUORANTHENE	UG/KG	<200.0	<200.0		
B143	BENZO (A) PYRENE	UG/KG	<500.0	<500.0		
B144	INDENO (1,2,3-CD) PYRENE	UG/KG	<500.0	<500.0		
B145	DIBENZO (A,H) ANTHRACENE	UG/KG	<500.0	<500.0		
B146	BENZO (GHI) PERYLENE	UG/KG	<500.0	<500.0		
	CATEGORY 4 - ACIDS	PARAMETERS				
A101	PHENOL	UG/KG	<500.0	<500.0		
A102	2-CHLOROPHENOL	UG/KG	<500.0	<500.0		
A103	2-NITROPHENOL	UG/KG	<500.0	<500.0		
A104	2,4-DIMETHYLPHENOL	UG/KG	<500.0	<500.0		
A105	2,4-DICHLOROPHENOL	UG/KG	<500.0	<500.0		
A106	P-CHLORO-M-CRESOL	UG/KG	<500.0	<500.0		
A107	2,4,6-TRICHLOROPHENOL	UG/KG	<500.0	<500.0		
A108	2,4-DINITROPHENOL	UG/KG	<5000.0	<5000.0		
A109	4-NITROPHENOL	UG/KG	<500.0	<500.0		
A110	4,6-DINITRO-O-CRESOL	UG/KG	<5000.0	<5000.0		
A111	PENTACHLOROPHENOL	UG/KG	<500.0	<500.0		

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MARY DEVINE SCHOOL
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

		SITE: MDS-1	SITE: MDS-2	SITE:	SITE:
		LAB#: N314840	LAB#: N314841	LAB#:	LAB#:
	CATEGORY 4 - PESTICIDES PARAMETERS				
P101	ALDRIN	UG/KG	<200.0	<200.0	
P102	ALPHA-BHC	UG/KG	<200.0	<200.0	
P103	BETA-BHC	UG/KG	<200.0	<200.0	
P104	GAMMA-BHC	UG/KG	<200.0	<200.0	
P105	DELTA-BHC	UG/KG	<200.0	<200.0	
P106	CHLORDANE	UG/KG	<200.0	<200.0	
P107	4,4'-DDT	UG/KG	<200.0	<200.0	
P108	4,4'-DDE	UG/KG	<200.0	<200.0	
P109	4,4'-DDD	UG/KG	<200.0	<200.0	
P110	DIELDRIN	UG/KG	<200.0	<200.0	
P111	ALPHA-ENDOSULFAN	UG/KG	<200.0	<200.0	
P112	BETA-ENDOSULFAN	UG/KG	<200.0	<200.0	
P113	ENDOSULFAN SULFATE	UG/KG	<200.0	<200.0	
P114	ENDRIN	UG/KG	<200.0	<200.0	
P115	ENDRIN ALDEHYDE	UG/KG	<200.0	<200.0	
P116	HEPTACHLOR	UG/KG	<200.0	<200.0	
P117	HEPTACHLOR EPOXIDE	UG/KG	<200.0	<200.0	
P118	PCB-1242	UG/KG	<200.0	<200.0	
P119	PCB-1254	UG/KG	<200.0	<200.0	
P120	PCB-1221	UG/KG	<200.0	<200.0	
P121	PCB-1232	UG/KG	<200.0	<200.0	
P122	PCB-1248	UG/KG	<200.0	<200.0	
P123	PCB-1260	UG/KG	<200.0	<200.0	
P124	PCB-1016	UG/KG	<200.0	<200.0	
P125	TOXAPHENE	UG/KG	<200.0	<200.0	
P126	2,4-D	UG/KG	<.2	<.2	
P127	2,4,5-TP	UG/KG	<.1	<.1	

BASEBALL FIELD
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

	SITE: 88F-1 LAB#: N314628	SITE: 88F-2 LAB#: N314842	SITE: LAB#:	SITE: LAB#:

CATEGORY 3 PARAMETERS

SURFACTANTS	MG/KG	.053	5.47
OIL & GREASE	MG/KG	.06	1.48
METHYL ETHYL KETONE	MG/KG	<.1	<.1
ISOBUTYL ALCOHOL	MG/KG	16.0	3.4
N-BUTYL ALCOHOL	MG/KG	<.1	<.1
ISOPROPYL ALCOHOL	MG/KG	<.1	<.1
ETHANOL	MG/KG	<.1	<.1
BUTYL METHACRYLATE	MG/KG	<10.0	<10.0
METHYL METHACRYLATE	MG/KG	<.1	<.1
ETHYL ACRYLATE	MG/KG	1.1	<.1
BUTYL ACRYLATE	MG/KG	<.1	<.1
STYRENE	MG/KG	<.1	<.1
ACETONE	MG/KG	<.1	<.1
ETHYL ACETATE	MG/KG	<.1	<.1
CELLUSOLVE ACETATE	MG/KG	<.1	<.1
BUTYL CELLUSOLVE	MG/KG	<.1	<.1
DITHANE	MG/KG		
LETHANE	MG/KG	<.01	<.01
KARATHANE	MG/KG	<.01	<.01
DNCP	MG/KG	<.01	<.01

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BASEBALL FIELD
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: BBF-1	SITE: BBF-2	SITE:	SITE:
			LAB#: N314628	LAB#: N314842	LAB#:	LAB#:
	CATEGORY 4 - OTHER POLLUTANTS	PARAMETERS				
T16	SILVER	MG/KG	<.8	<1.0		
T17	ARSENIC	MG/KG	.32	4.2		
T18	BERYLLIUM	MG/KG	<.4	<.5		
T19	CADMIUM	MG/KG	<.4	<.5		
T20	CYANIDE	MG/KG	<.076	<.164		
T21	CHROMIUM	MG/KG	<1.6	<2.0		
T22	COPPER	MG/KG	4.39	6.28		
T23	MERCURY	MG/KG	<.1	<.1		
T24	LEAD	MG/KG	20.4	19.5		
T25	PHENOLS	MG/KG	.582	.62		
T26	ANTIMONY	MG/KG	<6.0	<8.5		
T27	SELENIUM	MG/KG	<.04	<.05		
T28	THALLIUM	MG/KG	<12.0	<15.0		
T29	ZINC	MG/KG	84.9	78.0		
T30	NICKEL	MG/KG	5.4			
	CATEGORY 4 - VOLATILES	PARAMETERS				
V101	CHLOROMETHANE	UG/KG	<10.0	<10.0		
V102	VINYL CHLORIDE	UG/KG	<10.0	<10.0		
V103	CHLOROETHANE	UG/KG	<10.0	<10.0		
V104	BROMOMETHANE	UG/KG	<10.0	<10.0		
V105	ACROLEIN	UG/KG	<100.0	<100.0		
V106	ACRYLONITRILE	UG/KG	<100.0	<100.0		
V107	METHYLENE CHLORIDE	UG/KG	<10.0	<10.0		
V108	TRICHLOROFLUOROMETHANE	UG/KG	<10.0	<10.0		
V109	1,1-DICHLOROETHYLENE	UG/KG	<10.0	<10.0		
V110	1,1-DICHLOROETHANE	UG/KG	<10.0	<10.0		
V111	1,2-TRANS-DICHLOROETHYLENE	UG/KG	<10.0	<10.0		
V112	CHLOROFORM	UG/KG	<10.0	<10.0		
V113	1,2-DICHLOROETHANE	UG/KG	<10.0	<10.0		
V114	1,1,1-TRICHLOROETHANE	UG/KG	<10.0	<10.0		
V115	CARBON TETRACHLORIDE	UG/KG	<10.0	<10.0		
V116	BROMODICHLOROMETHANE	UG/KG	<10.0	<10.0		
V117	1,2-DICHLOROPROPANE	UG/KG	<10.0	<10.0		
V118	TRANS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0		
V119	TRICHLOROETHYLENE	UG/KG	<10.0	<10.0		

BASEBALL FIELD
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: BBF-1 LAB#: N314628	SITE: BBF-2 LAB#: N314842	SITE: LAB#:	SITE: LAB#:
V120	BENZENE	UG/KG	<10.0	<10.0		
V121	CIS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0		
V122	1,1,2-TRICHLOROETHANE	UG/KG	<10.0	<10.0		
V123	DIBROMOCHLOROMETHANE	UG/KG	<10.0	<10.0		
V124	BROMOFORM	UG/KG	<10.0	<10.0		
V125	TETRACHLOROETHYLENE	UG/KG	<10.0	<10.0		
V126	1,1,2,2-TETRACHLOROETHANE	UG/KG	<10.0	<10.0		
V127	TOLUENE	UG/KG	<10.0	<10.0		
V128	CHLOROBENZENE	UG/KG	<10.0	<10.0		
V129	ETHYLBENZENE	UG/KG	<10.0	<10.0		
V130	2-CHLOROETHYL VINYL ETHER	UG/KG	<10.0	<10.0		
	CATEGORY 4 - BASE/NEUTRAL PARAMETERS					
B101	N-NITROSODIMETHYLAMINE	UG/KG	<200.0	<200.0		
B102	BIS (2-CHLOROETHYL) ETHER	UG/KG	<200.0	<200.0		
B103	1,3-DICHLOROBENZENE	UG/KG	<200.0	<200.0		
B104	1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0		
B105	1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0		
B106	BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0		
B107	HEXACHLOROETHANE	UG/KG	<200.0	<200.0		
B108	N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0		
B109	NITROBENZENE	UG/KG	<200.0	<200.0		
B110	ISOPHORONE	UG/KG	<200.0	<200.0		
B111	BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0		
B112	1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0		
B113	NAPHTHALENE	UG/KG	<200.0	<200.0		
B114	HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0		
B115	HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0		
B116	2-CHOKONAPHTHALENE	UG/KG	<200.0	<200.0		
B117	DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0		
B118	ACENAPHTHYLENE	UG/KG	<200.0	<200.0		
B119	2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0		
B120	ACENAPHTHENE	UG/KG	<200.0	<200.0		
B121	2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0		
B122	DIETHYL PHTHALATE	UG/KG	<200.0	<200.0		
B123	FLUORENE	UG/KG	<200.0	<200.0		
B124	4-CHOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0		
B125	N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0		
B126	1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0		
B127	4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0		
B128	HEXACHLOROBENZENE	UG/KG	<200.0	<200.0		

000275

BASEBALL FIELD
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: BBF-1 LAB#: N314628	SITE: BBF-2 LAB#: N314842	SITE: LAB#:	SITE: LAB#:
B129	PHENANTHRENE	UG/KG	<200.0	<200.0		
B130	ANTHRACENE	UG/KG	<200.0	<200.0		
B131	DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<200.0		
B132	FLUORANTHENE	UG/KG	<200.0	<200.0		
B133	BENZIDINE	UG/KG	<200.0	<200.0		
B134	PYRENE	UG/KG	<200.0	<200.0		
B135	BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0		
B136	BENZO (A) ANTHRACENE	UG/KG	<200.0	<200.0		
B137	3,3'-DICHLOROVENZIDINE	UG/KG	<200.0	<200.0		
B138	CHRYSENE	UG/KG	<200.0	<200.0		
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0		
B140	DI-N-OCTYL PHTHALATE	UG/KG	<200.0	<200.0		
B141	BENZO(B)FLOURANTHENE	UG/KG	<200.0	<200.0		
B142	BENZO (K) FLUORANTHENE	UG/KG	<200.0	<200.0		
B143	BENZO (A) PYRENE	UG/KG	<500.0	<500.0		
B144	INDENO (1,2,3-CD) PYRENE	UG/KG	<500.0	<500.0		
B145	DIBENZO (A,H) ANTHRACENE	UG/KG	<500.0	<500.0		
B146	BENZO (GHI) PERYLENE	UG/KG	<500.0	<500.0		
	CATEGORY 4 - ACIDS	PARAMETERS				
A101	PHENOL	UG/KG	<500.0	<500.0		
A102	2-CHLOROPHENOL	UG/KG	<500.0	<500.0		
A103	2-NITROPHENOL	UG/KG	<500.0	<500.0		
A104	2,4-DIMETHYLPHENOL	UG/KG	<500.0	<500.0		
A105	2,4-DICHLOROPHENOL	UG/KG	<500.0	<500.0		
A106	P-CHLORO-M-CRESOL	UG/KG	<500.0	<500.0		
A107	2,4,6-TRICHLOROPHENOL	UG/KG	<500.0	<500.0		
A108	2,4-DINITROPHENOL	UG/KG	<5000.0	<5000.0		
A109	4-NITROPHENOL	UG/KG	<500.0	<500.0		
A110	4,6-DINITRO-O-CRESOL	UG/KG	<5000.0	<5000.0		
A111	PENTACHLOROPHENOL	UG/KG	<500.0	<500.0		

BASEBALL FIELD
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

	SITE: BBF-1	SITE: BBF-2	SITE:	SITE:
	LAB#: N314628	LAB#: N314842	LAB#:	LAB#:
CATEGORY 4 - PESTICIDES PARAMETERS				
P101 ALDRIN	UG/KG	<200.0	<200.0	
P102 ALPHA-BHC	UG/KG	<200.0	<200.0	
P103 BETA-BHC	UG/KG	<200.0	<200.0	
P104 GAMMA-BHC	UG/KG	<200.0	<200.0	
P105 DELTA-BHC	UG/KG	<200.0	<200.0	
P106 CHLORDANE	UG/KG	<200.0	<200.0	
P107 4,4'-DDT	UG/KG	<200.0	<200.0	
P108 4,4'-DDE	UG/KG	<200.0	<200.0	
P109 4,4'-DDD	UG/KG	<200.0	<200.0	
P110 DIELDRIN	UG/KG	<200.0	<200.0	
P111 ALPHA-ENDOSULFAN	UG/KG	<200.0	<200.0	
P112 BETA-ENDOSULFAN	UG/KG	<200.0	<200.0	
P113 ENDOSULFAN SULFATE	UG/KG	<200.0	<200.0	
P114 ENDRIN	UG/KG	<200.0	<200.0	
P115 ENDRIN ALDEHYDE	UG/KG	<200.0	<200.0	
P116 HEPTACHLOR	UG/KG	<200.0	<200.0	
P117 HEPTACHLOR EPOXIDE	UG/KG	<200.0	<200.0	
P118 PCB-1242	UG/KG	<200.0	<200.0	
P119 PCB-1254	UG/KG	<200.0	<200.0	
P120 PCB-1221	UG/KG	<200.0	<200.0	
P121 PCB-1232	UG/KG	<200.0	<200.0	
P122 PCB-1248	UG/KG	<200.0	<200.0	
P123 PCB-1260	UG/KG	<200.0	<200.0	
P124 PCB-1016	UG/KG	<200.0	<200.0	
P125 TOXAPHENE	UG/KG	<200.0	<200.0	
P126 2,4-D	UG/KG	<.2	<.2	
P127 2,4,5-TP	UG/KG	<.1	<.1	

000276

000277

NORTH PERIMETER
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

		SITE: NP-A	SITE: NP-B	SITE: NP-C	SITE: NP-D
		LAB#: N314629	LAB#: N314630	LAB#: N314631	LAB#: N314632
CATEGORY 3 PARAMETERS					
SURFACTANTS	MG/KG			3.82	4.15
OIL & GREASE	MG/KG	.056	.05	.069	.05
METHYL ETHYL KETONE	MG/KG	<.1	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/KG	5.7	3.3	10.7	1.4
N-BUTYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
ISOPROPYL ALCOHOL	MG/KG	.6	.2	1.4	.1
ETHANOL	MG/KG	<.1	<.1	<.1	<.1
BUTYL METHACRYLATE	MG/KG	<10.0	<10.0	<10.0	<10.0
METHYL METHACRYLATE	MG/KG	<.1	<.1	<.1	<.1
ETHYL ACRYLATE	MG/KG	2.5	6.3	2.8	2.5
BUTYL ACRYLATE	MG/KG	<.1	<.1	<.1	<.1
STYRENE	MG/KG	<.1	<.1	<.1	<.1
ACETONE	MG/KG	<.1	<.1	<.1	<.1
ETHYL ACETATE	MG/KG	<.1	<.1	<.1	<.1
CELLUSOLVE ACETATE	MG/KG	<.1	<.1	<.1	<.1
BUTYL CELLUSOLVE	MG/KG	<.1	<.1	<.1	<.1
DITHANE	MG/KG				
LETHANE	MG/KG	<.01	<.01	<.01	<.01
KARATHANE	MG/KG	<.01	<.01	<.01	<.01
DNCP	MG/KG	<.01	<.01	<.01	<.01

NORTH PERIMETER
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: NP-A	SITE: NP-B	SITE: NP-C	SITE: NP-D
			LAB#: N314629	LAB#: N314630	LAB#: N314631	LAB#: N314632
CATEGORY 4 - OTHER POLLUTANTS PARAMETERS						
T16	SILVER	MG/KG	<.8	<.8	<.8	<.8
T17	ARSENIC	MG/KG	.24	.64	3.32	3.8
T18	BERYLLIUM	MG/KG	<.4	<.4	<.4	<.4
T19	CADMIUM	MG/KG	<.4	<.4	<.4	<.4
T20	CYANIDE	MG/KG	<.076	<.079	<.075	<.08
T21	CHROMIUM	MG/KG	<1.6	<1.6	<1.6	<1.6
T22	COPPER	MG/KG	5.09	2.98	3.68	6.49
T23	MERCURY	MG/KG	<.1	<.1	<.1	.07
T24	LEAD	MG/KG	44.8	30.1	44.8	25.2
T25	PHENOLS	MG/KG	1.32	.593	.399	.749
T26	ANTIMONY	MG/KG	<6.0	<6.0	<6.0	<6.0
T27	SELENIUM	MG/KG	.065	.109	.58	<.04
T28	THALLIUM	MG/KG	<12.0	<12.0	<12.0	<12.0
T29	ZINC	MG/KG	29.7	16.7	23.2	41.6
T30	NICKEL	MG/KG	5.4	<4.0	4.12	5.4
CATEGORY 4 - VOLATILES PARAMETERS						
V101	CHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V102	VINYL CHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0
V103	CHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V104	BROMOMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V105	ACROLEIN	UG/KG	<100.0	<100.0	<100.0	<100.0
V106	ACRYLONITRILE	UG/KG	<100.0	<100.0	<100.0	<100.0
V107	METHYLENE CHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0
V108	TRICHLOROFLUOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V109	1,1-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V110	1,1-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V111	1,2-TRANS-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V112	CHLOROFORM	UG/KG	<10.0	<10.0	<10.0	<10.0
V113	1,2-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V114	1,1,1-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V115	CARBON TETRACHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0
V116	BROMODICHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V117	1,2-DICHLOROPROPANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V118	TRANS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V119	TRICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0

NORTH PERIMETER
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: NP-A LAB#: N314629	SITE: NP-B LAB#: N314630	SITE: NP-C LAB#: N314631	SITE: NP-D LAB#: N314632
V120	BENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V121	CIS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V122	1,1,2-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V123	DIBROMOCHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V124	BROMOFORM	UG/KG	<10.0	<10.0	<10.0	<10.0
V125	TETRACHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V126	1,1,2,2-TETRACHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V127	TOLUENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V128	CHLOROBENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V129	ETHYLBENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V130	2-CHLOROETHYL VINYL ETHER	UG/KG	<10.0	<10.0	<10.0	<10.0
	CATEGORY 4 - BASE/NEUTRAL PARAMETERS					
B101	N-NITROSODIMETHYLAMINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B102	BIS (2-CHLOROETHYL) ETHER	UG/KG	<200.0	<200.0	<200.0	<200.0
B103	1,3-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B104	1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B105	1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B106	BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0	<200.0	<200.0
B107	HEXACHLOROETHANE	UG/KG	<200.0	<200.0	<200.0	<200.0
B108	N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B109	NITROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B110	ISOPHORONE	UG/KG	<200.0	<200.0	<200.0	<200.0
B111	BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0	<200.0	<200.0
B112	1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B113	NAPHTHALENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B114	HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B115	HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B116	2-CHORONAPHTHALENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B117	DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B118	ACENAPHTHYLENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B119	2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B120	ACENAPHTHENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B121	2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B122	DIETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B123	FLUORENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B124	4-CHOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0	<200.0
B125	N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B126	1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B127	4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0	<200.0
B128	HEXACHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0

NORTH PERIMETER
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: NP-A LAB#: N314629	SITE: NP-B LAB#: N314630	SITE: NP-C LAB#: N314631	SITE: NP-D LAB#: N314632
B129	PHENANTHRENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B130	ANTHRACENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B131	DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B132	FLUORANTHENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B133	BENZIDINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B134	PYRENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B135	BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B136	BENZO (A) ANTHRACENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B137	3,3'-DICHLOROVENZIDINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B138	CHRYSENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B140	DI-N-OCTYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B141	BENZO(B)FLOURANTHENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B142	BENZO (K) FLUORANTHENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B143	BENZO (A) PYRENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B144	INDENO (1,2,3-CD) PYRENE	UG/KG	<500.0	<500.0	<500.0	<500.0
B145	DIBENZO (A,H) ANTHRACENE	UG/KG	<500.0	<500.0	<500.0	<500.0
B146	BENZO (GHI) PERYLENE	UG/KG	<500.0	<500.0	<500.0	<500.0
	CATEGORY 4 - ACIDS	PARAMETERS				
A101	PHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A102	2-CHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A103	2-NITROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A104	2,4-DIMETHYLPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A105	2,4-DICHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A106	P-CHLORO-M-CRESOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A107	2,4,6-TRICHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A108	2,4-DINITROPHENOL	UG/KG	<5000.0	<5000.0	<5000.0	<5000.0
A109	4-NITROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A110	4,6-DINITRO-O-CRESOL	UG/KG	<5000.0	<5000.0	<5000.0	<5000.0
A111	PENTACHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0

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NORTH PERIMETER
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: NP-A	SITE: NP-B	SITE: NP-C	SITE: NP-D
			LAB#: N314629	LAB#: N314630	LAB#: N314631	LAB#: N314632
	CATEGORY 4 - PESTICIDES	PARAMETERS				
P101	ALDRIN	UG/KG	<200.0	<200.0	<200.0	<200.0
P102	ALPHA-BHC	UG/KG	<200.0	<200.0	<200.0	<200.0
P103	BETA-BHC	UG/KG	<200.0	<200.0	<200.0	<200.0
P104	GAMMA-BHC	UG/KG	<200.0	<200.0	<200.0	<200.0
P105	DELTA-BHC	UG/KG	<200.0	<200.0	<200.0	<200.0
P106	CHLORDANE	UG/KG	<200.0	<200.0	<200.0	<200.0
P107	4,4'-DDT	UG/KG	<200.0	<200.0	<200.0	<200.0
P108	4,4'-DDE	UG/KG	<200.0	<200.0	<200.0	<200.0
P109	4,4'-DDD	UG/KG	<200.0	<200.0	<200.0	<200.0
P110	DIELDRIN	UG/KG	<200.0	<200.0	<200.0	<200.0
P111	ALPHA-ENDOSULFAN	UG/KG	<200.0	<200.0	<200.0	<200.0
P112	BETA-ENDOSULFAN	UG/KG	<200.0	<200.0	<200.0	<200.0
P113	ENDOSULFAN SULFATE	UG/KG	<200.0	<200.0	<200.0	<200.0
P114	ENDRIN	UG/KG	<200.0	<200.0	<200.0	<200.0
P115	ENDRIN ALDEHYDE	UG/KG	<200.0	<200.0	<200.0	<200.0
P116	HEPTACHLOR	UG/KG	<200.0	<200.0	<200.0	<200.0
P117	HEPTACHLOR EPOXIDE	UG/KG	<200.0	<200.0	<200.0	<200.0
P118	PCB-1242	UG/KG	<200.0	<200.0	<200.0	<200.0
P119	PCB-1254	UG/KG	<200.0	<200.0	<200.0	<200.0
P120	PCB-1221	UG/KG	<200.0	<200.0	<200.0	<200.0
P121	PCB-1232	UG/KG	<200.0	<200.0	<200.0	<200.0
P122	PCB-1248	UG/KG	<200.0	<200.0	<200.0	<200.0
P123	PCB-1260	UG/KG	<200.0	<200.0	<200.0	<200.0
P124	PCB-1016	UG/KG	<200.0	<200.0	<200.0	<200.0
P125	TOXAPHENE	UG/KG	<200.0	<200.0	<200.0	<200.0
P126	2,4-D	UG/KG	<.2	<.2	<.2	<.2
P127	2,4,5-TP	UG/KG	<.1	<.1	<.1	<.1

MAPLE BEACH (CONTROL)
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

	SITE: MBE COMP	SITE: MBW COMP	SITE:	SITE:
	LAB#: N314578	LAB#: N314577	LAB#:	LAB#:
CATEGORY 3 PARAMETERS				
SURFACTANTS	MG/KG	.069	.045	
OIL & GREASE	MG/KG	.09	.11	
METHYL ETHYL KETONE	MG/KG	<.1	<.1	
ISOBUTYL ALCOHOL	MG/KG	7.1	7.5	
N-BUTYL ALCOHOL	MG/KG	<.1	<.1	
ISOPROPYL ALCOHOL	MG/KG	<.1	<.1	
ETHANOL	MG/KG	<.1	<.1	
BUTYL METHACRYLATE	MG/KG	<10.0	<10.0	
METHYL METHACRYLATE	MG/KG	<.1	<.1	
ETHYL ACRYLATE	MG/KG	4.6	<.1	
BUTYL ACRYLATE	MG/KG	4.6	<.1	
STYRENE	MG/KG	<.1	<.1	
ACETONE	MG/KG	<.1	<.1	
ETHYL ACETATE	MG/KG	<.1	<.1	
CELLUSOLVE ACETATE	MG/KG	<.1	<.1	
BUTYL CELLUSOLVE	MG/KG	<.1	<.1	
DITHANE	MG/KG			
LETHANE	MG/KG	<.01	<.01	
KARATHANE	MG/KG	<.01	<.01	
DNCP	MG/KG	<.01	<.01	

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42

000283

MAPLE BEACH (CONTROL)
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: MBE COMP	SITE: MBW COMP	SITE:	SITE:
			LAB#: N314578	LAB#: N314577	LAB#:	LAB#:
	CATEGORY 4 - OTHER POLLUTANTS	PARAMETERS				
T16	SILVER	MG/KG	<.8	<.8		
T17	ARSENIC	MG/KG	8.0	5.2		
T18	BERYLLIUM	MG/KG	<.4	<.4		
T19	CADMIUM	MG/KG	<.4	<.4		
T20	CYANIDE	MG/KG	<.077	<.075		
T21	CHROMIUM	MG/KG	2.61	<1.6		
T22	COPPER	MG/KG	7.89	5.09		
T23	MERCURY	MG/KG	<.1	<.1		
T24	LEAD	MG/KG	29.2	133.0		
T25	PHENOLS	MG/KG	.6	.617		
T26	ANTIMONY	MG/KG	<6.0	<6.0		
T27	SELENIUM	MG/KG	.04	<.04		
T28	THALLIUM	MG/KG	<12.0	<12.0		
T29	ZINC	MG/KG	55.1	32.7		
T30	NICKEL	MG/KG				
	CATEGORY 4 - VOLATILES	PARAMETERS				
V101	CHLOROMETHANE	UG/KG	<10.0	<10.0		
V102	VINYL CHLORIDE	UG/KG	<10.0	<10.0		
V103	CHLOROETHANE	UG/KG	<10.0	<10.0		
V104	BROMOMETHANE	UG/KG	<10.0	<10.0		
V105	ACROLEIN	UG/KG	<100.0	<100.0		
V106	ACRYLONITRILE	UG/KG	<100.0	<100.0		
V107	METHYLENE CHLORIDE	UG/KG	<10.0	<10.0		
V108	TRICHLOROFLUOROMETHANE	UG/KG	<10.0	<10.0		
V109	1,1-DICHLOROETHYLENE	UG/KG	<10.0	<10.0		
V110	1,1-DICHLOROETHANE	UG/KG	<10.0	<10.0		
V111	1,2-TRANS-DICHLOROETHYLENE	UG/KG	<10.0	<10.0		
V112	CHLOROFORM	UG/KG	<10.0	<10.0		
V113	1,2-DICHLOROETHANE	UG/KG	<10.0	<10.0		
V114	1,1,1-TRICHLOROETHANE	UG/KG	<10.0	<10.0		
V115	CARBON TETRACHLORIDE	UG/KG	<10.0	<10.0		
V116	BROMODICHLOROMETHANE	UG/KG	<10.0	<10.0		
V117	1,2-DICHLOROPROPANE	UG/KG	<10.0	<10.0		
V118	TRANS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0		
V119	TRICHLOROETHYLENE	UG/KG	<10.0	<10.0		

000284

MAPLE BEACH (CONTROL)
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: MBE COMP LAB#: N314578	SITE: MBW COMP LAB#: N314577	SITE: LAB#:	SITE: LAB#:
V120	BENZENE	UG/KG	<10.0	<10.0		
V121	CIS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0		
V122	1,1,2-TRICHLOROETHANE	UG/KG	<10.0	<10.0		
V123	DIBROMOCHLOROMETHANE	UG/KG	<10.0	<10.0		
V124	BROMOFORM	UG/KG	<10.0	<10.0		
V125	TETRACHLOROETHYLENE	UG/KG	<10.0	<10.0		
V126	1,1,2,2-TETRACHLOROETHANE	UG/KG	<10.0	<10.0		
V127	TOLUENE	UG/KG	<10.0	<10.0		
V128	CHLOROBENZENE	UG/KG	<10.0	<10.0		
V129	ETHYLBENZENE	UG/KG	<10.0	<10.0		
V130	2-CHLOROETHYL VINYL ETHER	UG/KG	<10.0	<10.0		
	CATEGORY 4 - BASE/NEUTRAL PARAMETERS					
B101	N-NITROSODIMETHYLAMINE	UG/KG	<200.0	<200.0		
B102	BIS (2-CHLOROETHYL) ETHER	UG/KG	<200.0	<200.0		
B103	1,3-DICHLOROBENZENE	UG/KG	<200.0	<200.0		
B104	1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0		
B105	1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0		
B106	BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0		
B107	HEXACHLOROETHANE	UG/KG	<200.0	<200.0		
B108	N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0		
B109	NITROBENZENE	UG/KG	<200.0	<200.0		
B110	ISOPHORONE	UG/KG	<200.0	<200.0		
B111	BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0		
B112	1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0		
B113	NAPHTHALENE	UG/KG	<200.0	<200.0		
B114	HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0		
B115	HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0		
B116	2-CHORONAPHTHALENE	UG/KG	<200.0	<200.0		
B117	DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0		
B118	ACENAPHTHYLENE	UG/KG	<200.0	<200.0		
B119	2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0		
B120	ACENAPHTHENE	UG/KG	<200.0	<200.0		
B121	2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0		
B122	DIETHYL PHTHALATE	UG/KG	<200.0	<200.0		
B123	FLUORENE	UG/KG	<200.0	<200.0		
B124	4-CHOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0		
B125	N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0		
B126	1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0		
B127	4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0		
B128	HEXACHLOROBENZENE	UG/KG	<200.0	<200.0		

000289

MAPLE BEACH (CONTROL)
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

			SITE: MBE COMP LAB#: N314578	SITE: MBW COMP LAB#: N314577	SITE: LAB#:	SITE: LAB#:
B129	PHENANTHRENE	UG/KG	<200.0	<200.0		
B130	ANTHRACENE	UG/KG	<200.0	<200.0		
B131	DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<200.0		
B132	FLUORANTHENE	UG/KG	<200.0	360.0		
B133	BENZIDINE	UG/KG	<200.0	<200.0		
B134	PYRENE	UG/KG	<200.0	280.0		
B135	BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0		
B136	BENZO (A) ANTHRACENE	UG/KG	<200.0	220.0		
B137	3,3'-DICHLOROVENZIDINE	UG/KG	<200.0	<200.0		
B138	CHRYSENE	UG/KG	<200.0	240.0		
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0		
B140	DI-N-OCTYL PHTHALATE	UG/KG	<200.0	<200.0		
B141	BENZO(B)FLOURANTHENE	UG/KG	<200.0	220.0		
B142	BENZO (K) FLUORANTHENE	UG/KG	<200.0	220.0		
B143	BENZO (A) PYRENE	UG/KG	<500.0	240.0		
B144	INDENO (1,2,3-CD) PYRENE	UG/KG	<500.0	<500.0		
B145	DIBENZO (A,H) ANTHRACENE	UG/KG	<500.0	<500.0		
B146	BENZO (GHI) PERYLENE	UG/KG	<500.0	<500.0		
	CATEGORY 4 - ACIDS PARAMETERS					
A101	PHENOL	UG/KG	<500.0	<500.0		
A102	2-CHLOROPHENOL	UG/KG	<500.0	<500.0		
A103	2-NITROPHENOL	UG/KG	<500.0	<500.0		
A104	2,4-DIMETHYLPHENOL	UG/KG	<500.0	<500.0		
A105	2,4-DICHLOROPHENOL	UG/KG	<500.0	<500.0		
A106	P-CHLORO-M-CRESOL	UG/KG	<500.0	<500.0		
A107	2,4,6-TRICHLOROPHENOL	UG/KG	<500.0	<500.0		
A108	2,4-DINITROPHENOL	UG/KG	<5000.0	<5000.0		
A109	4-NITROPHENOL	UG/KG	<500.0	<500.0		
A110	4,6-DINITRO-O-CRESOL	UG/KG	<5000.0	<5000.0		
A111	PENTACHLOROPHENOL	UG/KG	<500.0	<500.0		

MAPLE BEACH (CONTROL)
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - DIRECT

CATEGORY 4 - PESTICIDES PARAMETERS			SITE: MBE COMP LAB#: N314578	SITE: MBW COMP LAB#: N314577	SITE: LAB#:	SITE: LAB#:
P101	ALDRIN	UG/KG	<200.0	<200.0		
P102	ALPHA-BHC	UG/KG	<200.0	<200.0		
P103	BETA-BHC	UG/KG	<200.0	<200.0		
P104	GAMMA-BHC	UG/KG	<200.0	<200.0		
P105	DELTA-BHC	UG/KG	<200.0	<200.0		
P106	CHLORDANE	UG/KG	<200.0	<200.0		
P107	4,4'-DDT	UG/KG	<200.0	<200.0		
P108	4,4'-DDE	UG/KG	<200.0	<200.0		
P109	4,4'-DDD	UG/KG	<200.0	<200.0		
P110	DIELDRIN	UG/KG	<200.0	<200.0		
P111	ALPHA-ENDOSULFAN	UG/KG	<200.0	<200.0		
P112	BETA-ENDOSULFAN	UG/KG	<200.0	<200.0		
P113	ENDOSULFAN SULFATE	UG/KG	<200.0	<200.0		
P114	ENDRIN	UG/KG	<200.0	<200.0		
P115	ENDRIN ALDEHYDE	UG/KG	<200.0	<200.0		
P116	HEPTACHLOR	UG/KG	<200.0	<200.0		
P117	HEPTACHLOR EPOXIDE	UG/KG	<200.0	<200.0		
P118	PCB-1242	UG/KG	<200.0	<200.0		
P119	PCB-1254	UG/KG	<200.0	<200.0		
P120	PCB-1221	UG/KG	<200.0	<200.0		
P121	PCB-1232	UG/KG	<200.0	<200.0		
P122	PCB-1248	UG/KG	<200.0	<200.0		
P123	PCB-1260	UG/KG	<200.0	<200.0		
P124	PCB-1016	UG/KG	<200.0	<200.0		
P125	TOXAPHENE	UG/KG	<200.0	<200.0		
P126	2,4-D	UG/KG	<.2	<.2		
P127	2,4,5-TP	UG/KG	<.1	<.1		

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BRISTOL TOWNSHIP BWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

	SITE: B-1 POTW LAB#: N314565	SITE: B-2 POTW LAB#: N314567	SITE: B-3 POTW LAB#: N314569	SITE: LAB#:
CATEGORY 1 PARAMETERS				
TOTAL ORGANIC HALIDE (UG/L)	<20.0	<20.0	<20.0	
BOD (MG/L)	275.0	66.0	2625.0	
COD (MG/L)	456.0	465.0	4630.0	
SPECIFIC CONDUCTANCE (UMHOS)	429.0	122.0	3030.0	
PH (SU)	4.7	4.2	5.2	
CATEGORY 2 PARAMETERS				
NITROGEN, AMMONIA (MG/L)	17.5	.15	11.2	
BORON (MG/L)	.1	.1	.14	
CHLORIDE (MG/L)	3.28	.695	16.3	
FLUORIDE (MG/L)	.076	.094	.116	
IRON (MG/L)	.88	.39	2.74	
NITRATE (MG/L)	2.8	3.73	<.05	
PHOSPHATE (MG/L)	1.0	.06	15.0	
SULFATE (MG/L)	5.45	6.71	8.96	
SODIUM (MG/L)	45.6	18.5	1576.0	
POTASSIUM (MG/L)	9.3	.0443	6.36	
BARIUM (GF) (MG/L)	.19		.435	
FORMALDEHYDE (MG/L)				
MANGANESE (MG/L)	1.02	1.91	1.23	
SULFIDE AS S (MG/L)				
TIN (MG/L)	<.76	<.76	<.76	

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

	SITE: B-1 POTW	SITE: B-2 POTW	SITE: B-3 POTW	SITE:
	LAB#: N314565	LAB#: N314567	LAB#: N314569	LAB#:
CATEGORY 3 PARAMETERS				
OIL AND GREASE	MG/L	8.0	<1.0	78.0
SURFACTANTS (MBAS)	MG/L	.297	.797	.309
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1
ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1
ETHANOL	MG/L	<.1	<.1	<.1
BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
STYRENE	MG/L	<.1	<.1	<.1
ACETONE	MG/L	<.1	<.1	<.1
ETHYL ACETATE	MG/L	<.1	<.1	<.1
CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
DITHANE	MG/L			
LETHANE	MG/L	<.001	<.001	<.001
KARATHANE	MG/L	<.01	<.01	<.01
DNCP	MG/L	<.01	<.01	<.01

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48

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

			SITE: B-1 POTW	SITE: B-2 POTW	SITE: B-3 POTW	SITE:
			LAB#: N314565	LAB#: N314567	LAB#: N314569	LAB#:
	CATEGORY 4 - OTHER POLLUTANTS PARAMETERS					
T1	ANTIMONY	MG/L	<.15	<.15	<.17	
T2	ARSENIC	MG/L	.026	.008	.014	
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	
T4	CADMIUM	MG/L	<.01	<.01	<.01	
T5	CHROMIUM	MG/L	<.04	<.04	<.04	
T6	COPPER	MG/L	<.03	<.03	.16	
T7	LEAD	MG/L	<.12	<.12	<.1	
T8	MERCURY	MG/L	.0002	<.0002	.0002	
T9	NICKEL	MG/L	<.1	<.1	<.1	
T10	SELENIUM	MG/L	<.001	<.001	<.001	
T11	SILVER	MG/L	<.02	<.02	<.02	
T12	THALLIUM	MG/L	<.3	<.3	<.3	
T13	ZINC	MG/L	.6	.07	.56	
T14	CYANIDE	MG/L	<.005	<.005	<.005	
T15	PHENOLS	MG/L	.495	.026	6.06	
	CATEGORY 4 - VOLATILES PARAMETERS					
V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0	
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0	
V3	BENZENE	UG/L	<10.0	<10.0	41.0	
V4	BIS (CHLOROMETHYL) ETHER	UG/L				
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0	
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0	
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0	
V11	CHLOROFORM	UG/L	<10.0	<10.0	<10.0	
V12	DICHLOROBROMOMETHANE	UG/L				
V13	DICHLORODIFLUOROMETHANE	UG/L				
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<10.0	
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

			SITE: B-1 POTW LAB#: N314565	SITE: B-2 POTW LAB#: N314567	SITE: B-3 POTW LAB#: N314569	SITE: LAB#:
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<10.0	
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0	
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	
V23	METHYLENE CHLORIDE	UG/L	22.0	<15.0	13.0	
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	
V26	TOLUENE	UG/L	<14.0	<10.0	<10.0	
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0	
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	

CATEGORY 4 - BASE/NEUTRAL PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	
B7	3,4-BENZOFLUORANTHENE	UG/L				
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	10.0	<10.0	<10.0	
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	
B20	1,2-DICHLOROBENZENE	UG/L	21.0	<10.0	<10.0	
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B22	1,4-DICHLOROBENZENE	UG/L	40.0	<10.0	<10.0	
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	

002931

BRISTOL TOWNSHIP NWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

			SITE: B-1 POTW LAB#: N314565	SITE: B-2 POTW LAB#: N314567	SITE: B-3 POTW LAB#: N314569	SITE: LAB#:
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
	CATEGORY 4 - ACIDS PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A3	2,4-DIMETHYLPHENOL	UG/L	<59.0	<25.0	470.0	
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A10	PHENOL	UG/L	<25.0	<25.0	70.0	
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

			SITE: B-1 POTW	SITE: B-2 POTW	SITE: B-3 POTW	SITE:
			LAB#: N314565	LAB#: N314567	LAB#: N314569	LAB#:
	CATEGORY 4 - PESTICIDES	PARAMETERS				
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	
	CATEGORY 5 PARAMETERS					
	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	
	GROSS B RADIOACTIVITY	PC I/L	12.0	<3.0	11.0	
	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	

000292

42

000293

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

		SITE: VS LAB#: N314619	SITE: BS LAB#: N314621	SITE: WASTE LAB#: N314623	SITE: POTW SUM LAB#: N314843
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC HALIDE	UG/L	24.6			42.5
BOD	MG/L	78.0	385.0	1680.0	1380.0
COD	MG/L	102.0	414.0	2140.0	2450.0
SPECIFIC CONDUCTANCE	UMHOS	160.0	543.0	2380.0	1499.0
PH	SU	6.6	5.0	4.9	4.9
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	<.05	<.05	25.0	.05
BORON	MG/L	.1	.08	.12	.12
CHLORIDE	MG/L	2.08	5.86	23.9	2.38
FLUORIDE	MG/L	.13	.09	.183	.077
IRON	MG/L	.24	.08	1.7	3.69
NITRATE	MG/L	.05	1.51	.48	.17
PHOSPHATE	MG/L	.37	.26	16.0	1.4
SULFATE	MG/L	<1.79	<11.91	8.09	2.81
SODIUM	MG/L	6.45	85.3	512.0	478.0
POTASSIUM	MG/L	2.3	5.07	11.9	3.96
BARIUM (GF)	MG/L	.33	.074	.266	.229
FORMALDEHYDE	MG/L	.01	.077	.038	
MANGANESE	MG/L	.27	1.38	.55	.81
SULFIDE AS S	MG/L	1.1	1.0	1.5	<1.0
TIN	MG/L	<.76	<.76	<.76	<.76

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

		SITE: VS LAB#: N314619	SITE: BS LAB#: N314621	SITE: WASTE LAB#: N314623	SITE: PUTN SUR LAB#: N314843
CATEGORY 3 PARAMETERS					
OIL AND GREASE	MG/L	2.0	6.0	3.0	2.0
SURFACTANTS (MBAS)	MG/L	.077	.327	.528	.914
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
ETHANOL	MG/L	<.1	<.1	<.1	<.1
BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
STYRENE	MG/L	<.1	<.1	<.1	<.1
ACETONE	MG/L	<.1	<.1	<.1	<.1
ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
DITHANE	MG/L				
LETHANE	MG/L	<.001	<.001	<.001	<.001
KARATHANE	MG/L	<.01	<.01	<.01	<.01
DNCP	MG/L	<.01	<.01	<.01	<.01

000294

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BRISTOL TOWNSHIP hwTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

			SITE: VS LAB#: N314619	SITE: BS LAB#: N314621	SITE: WASTE LAB#: N314623	SITE: POTW SUM LAB#: N314843
	CATEGORY 4 - OTHER POLLUTANTS	PARAMETERS				
T1	ANTIMONY	MG/L	<.17	<.17	<.17	<.17
T2	ARSENIC	MG/L	.007	.009	.022	.007
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.01	<.01	<.01	<.01
T5	CHROMIUM	MG/L	<.04	<.04	<.04	<.04
T6	COPPER	MG/L	<.03	<.03	<.03	.2
T7	LEAD	MG/L	<.1	<.1	<.1	<.1
T8	MERCURY	MG/L	<.0002	<.0002	<.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.02	<.02	<.02	<.02
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.42	.14	.83	.22
T14	CYANIDE	MG/L	<.005	<.005	.01	<.005
T15	PHENOLS	MG/L	.24	.14	4.63	.02
	CATEGORY 4 - VOLATILES	PARAMETERS				
V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0	<100.0
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0	<100.0
V3	BENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L				
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L				
V13	DICHLORODIFLUOROMETHANE	UG/L				
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0

000236

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

			SITE: VS LAB#: N314619	SITE: BS LAB#: N314621	SITE: WASTE LAB#: N314623	SITE: POTW SUR LAB#: N314843
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	12.0	<14.0	140.0	23.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
	CATEGORY 4 - BASE/NEUTRAL PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L				<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0

5/6

000297

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

			SITE: VS LAB#: N314619	SITE: BS LAB#: N314621	SITE: WASTE LAB#: N314623	SITE: POTW SUR LAB#: N314843
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	,10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<28.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
	CATEGORY A - ACIDS PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	760.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	31.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	84.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0

BRISTOL TOWNSHIP WWTP
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984

ANALYSIS TYPE - TEP LEACHATE

		SITE: VS	SITE: BS	SITE: WASTE	SITE: POTW SUR
		LAB#: N314619	LAB#: N314621	LAB#: N314623	LAB#: N314843
	CATEGORY 4 - PESTICIDES PARAMETERS				
P1	ALDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L <10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L <10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L <10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L <10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L <10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L <10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L <10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L <10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L <10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L <10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L <10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L <10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L <10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L <10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L <10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L <10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L <1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L <.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS				
	GROSS A RADIOACTIVITY	PC I/L <2.0	<2.0	<2.0	<2.0
	GROSS B RADIOACTIVITY	PC I/L <3.0	<3.0	<3.0	<3.0
	TOTAL RADIUM	PC I/L <1.0	<1.0	<1.0	<1.0

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MOSQUITO COMMISSION SITE
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

SITE: MCB-A	SITE: MCB-B	SITE: MCB-C	SITE:
LAB#:	LAB#:	LAB#:	LAB#:

CATEGORY 3 PARAMETERS

OIL AND GREASE	MG/L
SURFACTANTS (MBAS)	MG/L
METHYL ETHYL KETONE	MG/L
ISOBUTYL ALCOHOL	MG/L
N-BUTYL ALCOHOL	MG/L
ISOPROPYL ALCOHOL	MG/L
ETHANOL	MG/L
BUTYL METHACRYLATE	MG/L
METHYL METHACRYLATE	MG/L
ETHYL ACRYLATE	MG/L
BUTYL ACRYLATE	MG/L
STYRENE	MG/L
ACETONE	MG/L
ETHYL ACETATE	MG/L
CELLOSOLVE ACETATE	MG/L
BUTYL CELLOSOLVE	MG/L
DITHANE	MG/L
LETHANE	MG/L
KARATHANE	MG/L
DNCP	MG/L

Category 3 - Parameters not tested as part of this study

MOSQUITO COMMISSION SITE
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

		SITE: MCB-A	SITE: MCB-B	SITE: MCB-C	SITE:
		LAB#: N314525	LAB#: N314527	LAB#: N314529	LAB#:
	CATEGORY 4 - PESTICIDES	PARAMETERS			
P1	ALDRIN	UG/L	<.1	<.1	<.1
P2	ALPHA-BHC	UG/L	<.1	<.1	<.1
P3	BETA-BHC	UG/L	<.1	<.1	<.1
P4	GAMMA-BHC	UG/L	<.1	<.1	<.1
P5	DELTA-BHC	UG/L	<.1	<.1	<.1
P6	CHLORDANE	UG/L	<.1	<.1	<.1
P7	4,4'-DDT	UG/L	<.1	<.1	<.1
P8	4,4'-DDE	UG/L	<.1	<.1	<.1
P9	4,4'-DDD	UG/L	<.1	<.1	<.1
P10	DIELDRIN	UG/L	<.1	<.1	<.1
P11	ALPHA-ENDOSULFAN	UG/L	<.1	<.1	<.1
P12	BETA-ENDOSULFAN	UG/L	<.1	<.1	<.1
P13	ENDOSULFAN SULFATE	UG/L	<.1	<.1	<.1
P14	ENDRIN	UG/L	<.1	<.1	<.1
P15	ENDRIN ALDEHYDE	UG/L	<.1	<.1	<.1
P16	HEPTACHLOR	UG/L	<.1	<.1	<.1
P17	HEPTACHLOR EPOXIDE	UG/L	<.1	<.1	<.1
P18	PCB-1242	UG/L	<.1	<.1	<.1
P19	PCB-1254	UG/L	<.1	<.1	<.1
P20	PCB-1221	UG/L	<.1	<.1	<.1
P21	PCB-1232	UG/L	<.1	<.1	<.1
P22	PCB-1248	UG/L	<.1	<.1	<.1
P23	PCB-1260	UG/L	<.1	<.1	<.1
P24	PCB-1016	UG/L	<.1	<.1	<.1
P25	TOXAPHENE	UG/L	<.1	<.1	<.1
P26	2,4-D	UG/L	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

000300

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000301

MOSQUITO COMMISSION SITE
SOIL AND WASTE ANALYSIS RESULTS
ROHM AND HAAS ,DELAWARE VALLEY, INC.
JANUARY 1984
ANALYSIS TYPE - TEP LEACHATE

SITE: MCB-D	SITE: MCB-E	SITE: MCB-F	SITE:
LAB#:	LAB#:	LAB#:	LAB#:

CATEGORY 3 PARAMETERS

OIL AND GREASE	MG/L
SURFACTANTS (MBAS)	MG/L
METHYL ETHYL KETONE	MG/L
ISOBUTYL ALCOHOL	MG/L
N-BUTYL ALCOHOL	MG/L
ISOPROPYL ALCOHOL	MG/L
ETHANOL	MG/L
BUTYL METHACRYLATE	MG/L
METHYL METHACRYLATE	MG/L
ETHYL ACRYLATE	MG/L
BUTYL ACRYLATE	MG/L
STYRENE	MG/L
ACETONE	MG/L
ETHYL ACETATE	MG/L
CELLOSOLVE ACETATE	MG/L
BUTYL CELLOSOLVE	MG/L
DITHANE	MG/L
LETHANE	MG/L
KARATHANE	MG/L
DNCP	MG/L

Category 3 - Parameters not tested as part of this study

BCM

APPENDIX J

LABORATORY ANALYTICAL RESULTS

000302

BCM

APPENDIX J

GROUNDWATER MONITORING WELLS ANALYTICAL RESULTS

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 9, 1984

	CR-1A	CR-1B	CR-2	
	N401822 /N401825	N313544 /N313539	N313546 /N313541	/
	/	14399 /14409	14403 /14411	/

CATEGORY 0 PARAMETERS

1,1-DICHLOROETHENE	UG/L	<1.0		
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0		
TETRACHLOROETHENE	UG/L	<1.0		
TRICHLOROETHENE	UG/L	<1.0		
BROMODICHLOROMETHANE	UG/L	<1.0		

CATEGORY 1 PARAMETERS

TOTAL ORGANIC CARBON	MG/L	25.0	49.0	283.0
BOD	MG/L	<3.0	36.0	19.0
COD	MG/L	25.0	36.0	166.0
SPECIFIC CONDUCTANCE	UMHOS	181.0	308.0	205.0
PH	SU	5.5	5.5	5.6
TEMPERATURE	DEG. C		14.0	13.0

CATEGORY 2 PARAMETERS

NITROGEN, AMMONIA	MG/L	<.05	<.05	.2
BORON	MG/L	.17	.07	.04
CHLORIDE	MG/L	15.7	37.3	14.6
FLUORIDE	MG/L	.08	.06	.04
IRON	MG/L	.09	.37	<.04
NITRATE	MG/L	6.18	1.56	4.98
PHOSPHATE	MG/L	<.01	<.01	.03
SULFATE	MG/L	45.7	39.9	37.9
SODIUM	MG/L	14.6	27.2	10.0
POTASSIUM	MG/L	2.06	2.87	2.72
BARIUM (GF)	MG/L	.1	.051	.04
FORMALDEHYDE	MG/L	*	*	*
MANGANESE	MG/L	.1	1.83	3.11
SULFIDE AS S	MG/L	<1.0	<1.0	<1.0
TIN	MG/L	<1.0	<1.0	<1.0

000304

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

000305

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 9, 1984

		CR-1A	CR-1B	CR-2
		N401822 /N401825	N313544 /N313539	N313546 /N313541 /
		/	14399 /14409	14403 /14411 /
	CATEGORY 3 PARAMETERS			
	OIL AND GREASE	MG/L	3.0	1.0	1.0
	SURFACTANTS (MBAS)	MG/L	.009	.439	.047
	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1
	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
	DITHANE	MG/L		<.02	<.02
	LETHANE	MG/L	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01
	CATEGORY 4 PARAMETERS			
T1	ANTIMONY	MG/L	<.16	<.15	<.15
T2	ARSENIC	MG/L	<.001	<.001	.001
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.01	.0009	.0009
T5	CHROMIUM	MG/L	<.02	<.002	.002
T6	COPPER	MG/L	<.03	.05	.05
T7	LEAD	MG/L	<.005	<.002	<.002
T8	MERCURY	MG/L	<.0002	.0003	<.0004
T9	NICKEL	MG/L	<.1	<.1	.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 9, 1984

000306

			CR-1A	CR-1B	CR-2
			N401822 /N401825	N313544 /N313539	N313546 /N313541 /
			/	14399 /14409	14403 /14411 /

CATEGORY 4 PARAMETERS

T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	<.02	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	.734	.02	.02
T14	CYANIDE	MG/L	<.005	<.005	<.005
T15	PHENOLS	MG/L	<.002	.002	<.002

CATEGORY 4 PARAMETERS

V1	ACROLEIN	UG/L		<100.0	<100.0
V2	ACRYLONITRILE	UG/L		<100.0	<100.0
V3	BENZENE	UG/L	<.1	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<.1	<10.0	<10.0
V5	BROMOFORM	UG/L	<1.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<1.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<.1	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<1.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L		<10.0	<10.0
V11	CHLOROFORM	UG/L	<1.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<.1	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L		<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<.1	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<1.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<1.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	<.1	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<1.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<1.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<1.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<.1	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<.1	<10.0	<10.0
V26	TOLUENE	UG/L	<.1	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<.1	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<.1	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<.1	<10.0	12.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 9, 1984

			CR-1A	CR-1B	CR-2
			N401822 /N401825	N313544 /N313539	N313546 /N313541 /
			/	14399 /14409	14403 /14411 /

CATEGORY 4 PARAMETERS

V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<1.0	<10.0	<10.0
V33	DIBROMOCHLOROPETHANE	UG/L			

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L		<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	12.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	29.0	12.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<.2	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<.3	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<.2	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 9, 1984

			CR-1A	CR-1B	CR-2
			N401822 /N401825	N313544 /N313539	N313546 /N313541 /
			/	14399 /14409	14403 /14411 /

CATEGORY 4 PARAMETERS

V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<1.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L			

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L		<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	29.0	12.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<.2	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<.3	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<.2	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0

000303

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 9, 1984

			CR-1A	CR-1B	CR-2	
			N401822 /N401825	N313544 /N313539	N313546 /N313541	/
			/	14399 /14409	14403 /14411	/
			CATEGORY 4 PARAMETERS			
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0			
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 9, 1984

	CR-1A	CR-1B	CR-2	
	N401822 /N401825	N313544 /N313539	N313546 /N313541	/
	/	14399 /14409	14403 /14411	/

CATEGORY 4 PARAMETERS

P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<.1
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*	*	*
GROSS B RADIOACTIVITY	PC I/L	*	*	*
TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

000310

000311

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		CR-3A	CR-3B	CR-3C	
		N313619 /N313624	N313620 /N313625	N402033 /N402036	/
		14395 /14405	14396 /14406	20731 /	/
CATEGORY 0 PARAMETERS					
1,1-DICHLOROETHENE	UG/L			<1.0	
TRANS-1,2-DICHLOROETHENE	UG/L			<1.0	
TETRACHLOROETHENE	UG/L			<1.0	
TRICHLOROETHENE	UG/L			<1.0	
BROMODICHLOROMETHANE	UG/L			<1.0	
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	2413.0	760.0	29.0	
BOD	MG/L	1345.0	11.0		
COD	MG/L	3320.0	144.0	33.0	
SPECIFIC CONDUCTANCE	UMHOS	13530.0	2807.0	150.0	
PH	SU	7.6	7.2	6.9	
TEMPERATURE	DEG. C	16.0	18.0		
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	225.0	350.0	.2	
BORON	MG/L	.05	.13	.05	
CHLORIDE	MG/L	54.9	15.9	2.86	
FLUORIDE	MG/L	1.1	.64	.1	
IRON	MG/L	5.83	1.44	.38	
NITRATE	MG/L	.97	.71	<.09	
PHOSPHATE	MG/L	3.0	<.01	.02	
SULFATE	MG/L	948.0	440.0	5.58	
SODIUM	MG/L	55.8	17.1	15.2	
POTASSIUM	MG/L	12.6	6.2	5.2	
BARIUM (GF)	MG/L	.011	.026	.048	
FORMALDEHYDE	MG/L	*	*	*	
MANGANESE	MG/L		1.58	.06	
SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	
TIN	MG/L	<.76	<1.0	<1.0	

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-3A	CR-3B	CR-3C	
	N313619 /N313624	N313620 /N313625	N402033 /N402036	/
	14395 /14405	14396 /14406	20731 /	/

CATEGORY 3 PARAMETERS

OIL AND GREASE	MG/L	<1.0	1.0	2.0
SURFACTANTS (MBAS)	MG/L	5.01	.07	.07
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1
ISOPROPYL ALCOHOL	MG/L	30.0	<.1	<.1
ETHANOL	MG/L	<.1	<.1	<.1
BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
STYRENE	MG/L	<.1	<.1	<.1
ACETONE	MG/L	48.0	<.1	<.1
ETHYL ACETATE	MG/L	<.1	<.1	<.1
CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
DITHANE	MG/L			<.02
LETHANE	MG/L	<.001	<.001	<.001
KARATHANE	MG/L	<.01	<.01	<.01
DNCP	MG/L	<.01	<.01	<.01

CATEGORY 4 PARAMETERS

T1	ANTIMONY	MG/L	<.15	<.15	.38
T2	ARSENIC	MG/L	.09	.009	<.001
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.0005	<.0005	<.01
T5	CHROMIUM	MG/L	.055	.011	<.02
T6	COPPER	MG/L	.05	.07	<.03
T7	LEAD	MG/L	<.002	<.002	.002
T8	MERCURY	MG/L	.0002	<.0002	.0002
T9	NICKEL	MG/L	.1	<.1	<.1

000312

000313

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-3A	CR-3B	CR-3C	
	N313619 /N313624	N313620 /N313625	N402033 /N402036	/
	14395 /14405	14396 /14406	20731 /	/

CATEGORY 4 PARAMETERS

T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.02
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	.04	.03	.02
T14	CYANIDE	MG/L	<.013	<.005	<.005
T15	PHENOLS	MG/L	.75	.03	<.002

CATEGORY 4 PARAMETERS

V1	ACROLEIN	UG/L	<100.0	<100.0	
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	
V3	BENZENE	UG/L	<10.0	<10.0	
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	
V5	BROMOFORM	UG/L	<10.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<1.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	
V11	CHLOROFORM	UG/L	<10.0	<10.0	<1.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	3.4
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<1.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<1.0
V26	TOLUENE	UG/L	<10.0	<10.0	<1.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<1.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<1.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-3A	CR-3B	CR-3C	
	N313619 /N313624	N313620 /N313625	N402033 /N402036	/
	14395 /14405	14396 /14406	20731 /	/

CATEGORY 4 PARAMETERS

V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<1.0
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0	<10.0	<1.0

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0	
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	25.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0

000315

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			CR-3A	CR-3B	CR-3C
			N313619 /N313624	N313620 /N313625	N402033 /N402036 /
			14395 /14405	14396 /14406	20731 / /
			CATEGORY 4 PARAMETERS		
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	200.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L			<10.0
			CATEGORY 4 PARAMETERS		
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	250.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS		
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-3A	CR-3B	CR-3C	
	N313619 /N313624	N313620 /N313625	N402033 /N402036	/
	14395 /14405	14394 /14406	20731 /	/

CATEGORY 4 PARAMETERS

P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<.1	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

	GROSS A RADIOACTIVITY	PC I/L	*	*
	GROSS B RADIOACTIVITY	PC I/L	*	*
	TOTAL RADIUM	PC I/L	1.1	<1.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

000316

000317

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 16, 1984

	CR-4A	CR-4B	CR-4C	
	N313542 /N313537	N313543 /N313538	N403228 /N403227	/
	N402803 /14412	N402804 /14408	/	/

CATEGORY 0 PARAMETERS

1,1-DICHLOROETHENE	UG/L	1.6	<.1	<.1
TRANS-1,2-DICHLOROETHENE	UG/L	<.1	<.1	<.1
TETRACHLOROETHENE	UG/L	<.1	<.1	<1.4
TRICHLOROETHENE	UG/L	180.0	5.9	<.1
BROMODICHLOROMETHANE	UG/L	<.1	<.1	<.1

CATEGORY 1 PARAMETERS

TOTAL ORGANIC CARBON	MG/L	416.0	44.0	
BOD	MG/L	170.0	4.0	
COD	MG/L	685.0	26.0	53.0
SPECIFIC CONDUCTANCE	UMHOS	2100.0	221.0	2390.0
PH	SU	6.0	5.5	11.8
TEMPERATURE	DEG. C	13.0	14.0	

CATEGORY 2 PARAMETERS

NITROGEN, AMMONIA	MG/L	200.0	<.05	2.75
BORON	MG/L	<.002	<.002	
CHLORIDE	MG/L	19.6	19.1	
FLUORIDE	MG/L	.1	.06	
IRON	MG/L	5.16	.06	
NITRATE	MG/L	2.39	1.07	
PHOSPHATE	MG/L	<.01	<.01	
SULFATE	MG/L	363.0	41.9	284.4
SODIUM	MG/L	99.1	10.3	
POTASSIUM	MG/L	3.59	2.72	
BARIUM (GF)	MG/L	.034	.078	
FORMALDEHYDE	MG/L	*	*	
MANGANESE	MG/L	1.72	.51	
SULFIDE AS S	MG/L	<1.2	<1.0	

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 16, 1984

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	CR-4A	CR-4B	CR-4C	
	N313542 /N313537	N313543 /N313538	N403228 /N403227	/
	N402803 /14412	N402804 /14408	/	/

CATEGORY 2 PARAMETERS

TIN	MG/L	<1.0	<1.0	

CATEGORY 3 PARAMETERS

OIL AND GREASE	MG/L	1.0	.001	
SURFACTANTS (MBAS)	MG/L	1.1	.28	.12
METHYL ETHYL KETONE	MG/L	<.1	<.1	
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	
N-BUTYL ALCOHOL	MG/L	<.1	<.1	
ISOPROPYL ALCOHOL	MG/L	<.1	<.1	
ETHANOL	MG/L	<.1	<.1	
BUTYL METHACRYLATE	MG/L	<10.0	<10.0	
METHYL METHACRYLATE	MG/L	<.1	<.1	
ETHYL ACRYLATE	MG/L	<.1	<.1	
BUTYL ACRYLATE	MG/L	<.1	<.1	
STYRENE	MG/L	<.1	<.1	
ACETONE	MG/L	<.1	<.1	
ETHYL ACETATE	MG/L	<.1	<.1	
CELLOSOLVE ACETATE	MG/L	<.1	<.1	
BUTYL CELLOSOLVE	MG/L	<.1	<.1	
DITHANE	MG/L	<.02	<.02	
LETHANE	MG/L	<.001	<.001	
KARATHANE	MG/L	<.01	<.01	
DNCP	MG/L	<.01	<.01	

CATEGORY 4 PARAMETERS

T1.	ANTIMONY	MG/L	<.15	<.15
T2	ARSENIC	MG/L	.001	<.001
T3	BERYLLIUM	MG/L	<.01	<.01
T4	CADMIUM	MG/L	<.0005	.0012
T5	CHROMIUM	MG/L	.013	.002
T6	COPPER	MG/L	.05	.05
T7	LEAD	MG/L	<.002	<.002
T8	MERCURY	MG/L	<.0002	<.0002
T9	NICKEL	MG/L	.1	.1
T10	SELENIUM	MG/L	<.001	<.001

000319

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 16, 1984

	CR-4A	CR-4B	CR-4C	
	N313542 /N313537	N313543 /N313538	N403228 /N403227	/
	N402803 /14412	N402804 /14408	/	/

CATEGORY 4 PARAMETERS

T11	SILVER	MG/L	<.001	<.001	
T12	THALLIUM	MG/L	<.3	<.3	
T13	ZINC	MG/L	.02	.12	
T14	CYANIDE	MG/L	<.005	<.005	
T15	PHENOLS	MG/L	<.024	.007	

CATEGORY 4 PARAMETERS

V1	ACROLEIN	UG/L	<100.0	<100.0	
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	
V3	BENZENE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	
V5	BROMOFORM	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	
V11	CHLOROFORM	UG/L	<10.0	<10.0	10.3
			.1	.1	
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<.1
V16	1,1-DICHLOROETHYLENE	UG/L	13.0	<10.0	
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<.1
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<.1
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 16, 1984

	CR-4A	CR-4B	CR-4C	
	N313542 /N313537	N313543 /N313538	N403228 /N403227	/
	N402803 /14412	N402804 /14408	/	/

CATEGORY 4 PARAMETERS

V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	1.6
			4.5	1.1	
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	1.4
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	
V26	TOLUENE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	
V28	1,1,1-TRICHLOROETHANE	UG/L	60.0	12.0	<.1
			30.5	3.3	
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<.1
V30	TRICHLOROETHYLENE	UG/L	470.0	57.0	
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<.1
			<.1	<.1	
V33	DIBROMOCHLOROMETHANE	UG/L			<.1

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	15.0	17.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0

000320

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 16, 1984

			CR-4A	CR-4B	CR-4C	
			N313542 /N313537	N313543 /N313538	N403228 /N403227	/
			N402803 /14412	N402804 /14408	/	/

CATEGORY 4 PARAMETERS

B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0		
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<.1	
			<.1	<.1		
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<.1	
			<.1	<.1		
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<.1	
			<.1	<.1		
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0		
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0		
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0		
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0		
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0		
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0		
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0		
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0		
B31	FLUORANTHENE	UG/L	<10.0	<10.0		
B32	FLUORENE	UG/L	<10.0	<10.0		
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0		
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0		
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0		
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0		
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0		
B38	ISOPHORONE	UG/L	<10.0	<10.0		
B39	NAPHTHALENE	UG/L	<10.0	<10.0		
B40	NITROBENZENE	UG/L	<10.0	<10.0		
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0		
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0		
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0		
B44	PHENANTHRENE	UG/L	<10.0	<10.0		
B45	PYRENE	UG/L	<10.0	<10.0		
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0		
B47	BENZO(B) FLUORANTHENE	UG/L				

CATEGORY 4 PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0		
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0		
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0		
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0		

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 16, 1984

	CR-4A	CR-4B	CR-4C	
	N313542 /N313537	N313543 /N313538	N403228 /N403227	/
	N402803 /14412	N402804 /14408	/	/

CATEGORY 4 PARAMETERS

A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0

CATEGORY 4 PARAMETERS

P1	ALDRIN	UG/L	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5

000322

RUHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 16, 1984

	CR-4A	CR-4B	CR-4C	
	N313542 /N313537	N313543 /N313538	N403228 /N403227	/
	N402803 /14412	N402804 /14408	/	/

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*	*
GROSS B RADIOACTIVITY	PC I/L	*	*
TOTAL RADIUM	PC I/L	<1.0	<1.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

000323

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

		CR-5	CR-6	CR-7	CR-8
		N313621 /N313626	N313487 /N313482	N313545 /N313540	N313698 /N313693
		14397 /14407	N313483 /14338	N402806 /14402	14468 /14473
CATEGORY 0 PARAMETERS					
1,1-DICHLOROETHENE	UG/L		<.1	<.1	
TRANS-1,2-DICHLOROETHENE	UG/L		.4	<.1	
TETRACHLOROETHENE	UG/L		<.1	<.1	
TRICHLOROETHENE	UG/L		14.7	2.8	
BROMODICHLOROMETHANE	UG/L		<.1	<.1	
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	32.0	57.0	169.0	54.0
BOD	MG/L	18.0	54.0	3.0	<10.0
COD	MG/L	128.0	287.0	24.0	162.0
SPECIFIC CONDUCTANCE	UMHOS	768.0	1080.0	257.0	304.0
PH	SU	8.6	6.3	4.9	6.1
TEMPERATURE	DEG. C	16.0	15.0	13.0	15.0
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	40.0	1.07	<.05	<.05
BORON	MG/L	.11	.13	.03	.02
CHLORIDE	MG/L	6.54	126.0	43.3	39.6
FLUORIDE	MG/L	.34	.07	.05	.05
IRON	MG/L	<.04	7.57	<.04	<.04
NITRATE	MG/L	6.67	.18	.5	1.79
PHOSPHATE	MG/L	<.01	.6	<.01	.09
SULFATE	MG/L	182.0	183.0	35.0	36.0
SODIUM	MG/L	14.8	8.08	26.1	12.2
POTASSIUM	MG/L	12.7	6.06	2.58	4.17
BARIUM (GF)	MG/L	.045	.095	.061	.094
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	3.32	14.4	.28	.06
SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0

000324

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

		CR-5	CR-6	CR-7	CR-8
		N313621 /N313626	N313487 /N313482	N313545 /N313540	N313698 /N313693
		14397 /14407	N313483 /14338	N402806 /14402	14468 /14473
	CATEGORY 2 PARAMETERS				
	TIN	MG/L <1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS				
	OIL AND GREASE	MG/L <1.0	<1.0	1.0	<1.0
	SURFACTANTS (MBAS)	MG/L .042	.7	.202	.985
	METHYL ETHYL KETONE	MG/L <.1	<.1	<.1	<.1
	ISOBUTYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
	N-BUTYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
	ISOPROPYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
	ETHANOL	MG/L <.1	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L <10.0	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L <.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L <.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L <.1	<.1	<.1	<.1
	STYRENE	MG/L <.1	<.1	<.1	<.1
	ACETONE	MG/L <.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L <.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L <.1	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L <.1	<.1	<.1	<.1
	DITHANE	MG/L <.02	<.02	<.02	<.02
	LETHANE	MG/L <.001	<.001	<.001	<.001
	KARATHANE	MG/L <.01	<.01	<.01	<.01
	DNCP	MG/L <.01	<.01	<.01	<.01
	CATEGORY 4 PARAMETERS				
T1	ANTIMONY	MG/L <.15	<.15	<.15	<.15
T2	ARSENIC	MG/L .003	.004	.001	.001
T3	BERYLLIUM	MG/L <.01	<.01	<.01	<.01
T4	CADMIUM	MG/L <.0005	.0012	.0009	<.0005
T5	CHROMIUM	MG/L .004	.008	<.002	<.002
T6	COPPER	MG/L .07	.05	.07	<.03
T7	LEAD	MG/L <.002	<.002	<.002	<.002
T8	MERCURY	MG/L .0005	<.0002	<.0002	<.0002
T9	NICKEL	MG/L .1	<.1	.1	.1
T10	SELENIUM	MG/L <.001	<.001	<.001	<.001

000325

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

			CR-5	CR-6	CR-7	CR-8
			N313621 /N313626	N313487 /N313482	N313545 /N313540	N313698 /N313693
			14397 /14407	N313483 /14338	N402806 /14402	14468 /14473
	CATEGORY 4 PARAMETERS					
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
				<.1	<.1	
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
				4.4	3.9	
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
				<.1	<.1	
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
				2.2	.1	
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	10.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
				<.1	<.1	
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
				<.1	<.1	
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	
	CATEGORY 4 PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPHOPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	17.0	17.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0

000326

000327

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

			CR-5	CR-6	CR-7	CR-8
			N313621 /N313626	N313487 /N313482	N313545 /N313540	N313698 /N313693
			14397 /14407	N313483 /14338	N402806 /14402	14468 /14473
			CATEGORY 4 PARAMETERS			
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
				<.1	<.1	
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
				<.1	<.1	
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
				<.1	<.1	
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10,0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L				
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

			CR-5	CR-6	CR-7	CR-8
			N313621 /N313626	N313487 /N313482	N313545 /N313540	N313698 /N313693
			14397 /14407	N313483 /14338	N402806 /14402	14468 /14473
			CATEGORY 4 PARAMETERS			
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

000328

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

	CR-5	CR-6	CR-7	CR-8
	N313621 /N313626	N313487 /N313482	N313545 /N313540	N313698 /N313693
	14397 /14407	N313483 /14338	N402806 /14402	14468 /14473

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*	*	*	*
GROSS B RADIOACTIVITY	PC I/L	*	*	*	*
TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	1.2

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

000329

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-9	CR-10	CR-11	
	N313699 /N313694	N313700 /N313695	N313834 /N313830	/
	14469 /14474	14470 /14475	14544 /	/

CATEGORY 1 PARAMETERS

TOTAL ORGANIC CARBON	MG/L	100.0	69.0	15.0
BOD	MG/L	90.0	169.0	12.0
COD	MG/L	45.0	166.0	53.0
SPECIFIC CONDUCTANCE	UMHOS	508.0	1505.0	890.0
PH	SU	6.4	6.6	6.4
TEMPERATURE	DEG. C	16.0	13.0	16.0

CATEGORY 2 PARAMETERS

NITROGEN, AMMONIA	MG/L	10.6	6.0	4.5
BORON	MG/L	.1	.14	.15
CHLORIDE	MG/L	26.7	159.0	112.0
FLUORIDE	MG/L	.3	.3	.181
IRON	MG/L	86.6	96.4	43.1
NITRATE	MG/L	<.05	<.05	<.05
PHOSPHATE	MG/L	.03	.69	.22
SULFATE	MG/L	36.0	61.9	20.42
SODIUM	MG/L	23.9	150.0	89.8
POTASSIUM	MG/L	9.25	19.9	12.1
BARIUM (GF)	MG/L	.128	.398	.16
FORMALDEHYDE	MG/L	*	*	*
MANGANESE	MG/L	4.88	5.5	2.87
SULFIDE AS S	MG/L	<1.0	<1.0	<1.0
TIN	MG/L	<1.0	<1.0	<1.0

CATEGORY 3 PARAMETERS

OIL AND GREASE	MG/L	<1.0	<1.0	<1.0
SURFACTANTS (MBAS)	MG/L	.191	.912	.547
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

000330

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		CR-9	CR-10	CR-11	
		N313699 /N313694	N313700 /N313695	N313834 /N313830	/
		14469 /14474	14470 /14475	14544 /	/
	CATEGORY 3 PARAMETERS				
	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	<.02
	LETHANE	MG/L	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01
	CATEGORY 4 PARAMETERS				
T1	ANTIMONY	MG/L	<.15	<.15	<.15
T2	ARSENIC	MG/L	.012	.01	.003
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.0005	<.0005	<.0005
T5	CHROMIUM	MG/L	.011	.013	.011
T6	COPPER	MG/L	<.03	<.03	<.03
T7	LEAD	MG/L	<.002	<.002	<.002
T8	MERCURY	MG/L	.0006	.0004	.0004
T9	NICKEL	MG/L	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	.03	.05	.13
T14	CYANIDE	MG/L	<.005	.006	.005
T15	PHENOLS	MG/L	.009	.01	.006
	CATEGORY 4 PARAMETERS				
V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0

000332

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-9	CR-10	CR-11	
	N313699 /N313694	N313700 /N313695	N313834 /N313830	/
	14469 /14474	14470 /14475	14544 /	/

CATEGORY 4 PARAMETERS

V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0
V3	BENZENE	UG/L	99.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	88.0	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V26	TOLUENE	UG/L	630.0	12.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0		<10.0

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0

RUHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			CR-9	CR-10	CR-11	
			N313699 /N313694	N313700 /N313695	N313834 /N313830	/
			14469 /14474	14470 /14475	14544 /	/
			CATEGORY 4 PARAMETERS			
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			CR-9	CR-10	CR-11
			N313699 /N313694	N313700 /N313695	N313834 /N313830 /
			14469 /14474	14470 /14475	14544 / /
			CATEGORY 4 PARAMETERS		
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L			
			CATEGORY 4 PARAMETERS		
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS		
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0

000334

000335

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-9	CR-10	CR-11	
	N313699 /N313694	N313700 /N313695	N313834 /N313830	/
	14469 /14474	14470 /14475	14544 /	/

CATEGORY 4 PARAMETERS

P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*	*	*
GROSS B RADIOACTIVITY	PC I/L	*	*	*
TOTAL RADIUM	PC I/L	<1.0	11.4	2.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		CR-12A	CR-12B	CR-13A	CR-13B
		N313702 /N313697	N313701 /N313696	N313835 /N313831	N313836 /N313832
		14472 /14479	14471 /14476	14545 /	14548 /
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	365.0	93.0	12.0	13.0
BOD	MG/L	55.0	52.0	8.0	180.0
COD	MG/L	210.0	173.0	25.0	56.0
SPECIFIC CONDUCTANCE	UMHOS	2200.0	1180.0	810.0	440.0
PH	SU	7.1	7.6	6.9	6.5
TEMPERATURE	DEG. C	12.0	16.0	13.0	13.0
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	112.0	14.0	8.5	2.33
BORON	MG/L	.06	.16	.17	.1
CHLORIDE	MG/L	138.0	136.0	75.8	50.3
FLUORIDE	MG/L	.35	.2	.26	.26
IRON	MG/L	4.69	.04	.05	17.7
NITRATE	MG/L	<.05	<.05	.12	<.05
PHOSPHATE	MG/L	.32	7.4	.04	.46
SULFATE	MG/L	140.0	122.0	39.28	14.38
SODIUM	MG/L	273.0	196.0	150.0	84.5
POTASSIUM	MG/L	19.8	7.51	4.54	2.87
BARIUM (GF)	MG/L	.015	.049	.062	.044
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	13.6	.18	5.0	3.2
SULFIDE AS S	MG/L		<1.0	<1.0	<1.0
TIN	MG/L	<1.0	<1.0	<1.0	<1.0
CATEGORY 3 PARAMETERS					
OIL AND GREASE	MG/L	<1.0	<1.0	<1.0	<1.0
SURFACTANTS (MBAS)	MG/L	1.71	.879	.324	.042
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

000336

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		CR-12A	CR-12B	CR-13A	CR-13B
		N313702 /N313697	N313701 /N313696	N313835 /N313831	N313836 /N313832
		14472 /14479	14471 /14476	14545 /	14548 /
	CATEGORY 3 PARAMETERS				
	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	<.02	<.02
	LETHANE	MG/L	<.001	<.01	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01	<.01
	CATEGORY 4 PARAMETERS				
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC	MG/L	.001	.002	.003	.007
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.0005	<.0005	.0008	.0005
T5	CHROMIUM	MG/L	.011	<.002	<.002	.011
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD	MG/L	<.002	<.002	<.002	<.002
T8	MERCURY	MG/L	.0005	.0003	.0013	.0003
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.17	.03	.13	.12
T14	CYANIDE	MG/L	.01	.015	.008	.005
T15	PHENOLS	MG/L	.052	<.026	.01	.004
	CATEGORY 4 PARAMETERS				
V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0	<100.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

8EE000

			CR-12A	CR-12B	CR-13A	CR-13B
			N313702 /N313697	N313701 /N313696	N313835 /N313831	N313836 /N313832
			14472 /14479	14471 /14476	14545 /	14548 /
			CATEGORY 4 PARAMETERS			
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0	<100.0
V3	BENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
			CATEGORY 4 PARAMETERS			
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0

000339

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			CR-12A	CR-12B	CR-13A	CR-13B
			N313702 /N313697	N313701 /N313696	N313835 /N313831	N313836 /N313832
			14472 /14479	14471 /14476	14545 /	14548 /
			CATEGORY 4 PARAMETERS			
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	10.0	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			CR-12A	CR-12B	CR-13A	CR-13B
			N313702 /N313697	N313701 /N313696	N313835 /N313831	N313836 /N313832
			14472 /14479	14471 /14476	14545 /	14548 /
			CATEGORY 4 PARAMETERS			
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L				
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	60.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	240.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	70.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	56.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	22.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0

00340

000341

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-12A	CR-12B	CR-13A	CR-13B
	N313702 /N313697	N313701 /N313696	N313835 /N313831	N313836 /N313832
	14472 /14479	14471 /14476	14545 /	14548 /

CATEGORY 4 PARAMETERS

P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*	*	*	*
GROSS B RADIOACTIVITY	PC I/L	*	*	*	*
TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		CR-14	CR-15	CR-16	CR-17
		N313925 /N313920	N313926 /N313921	N402035 /N402038	N401827 /N401824
		14710 /	14711 /	20733 /	20601 /
CATEGORY 0 PARAMETERS					
1,1-DICHLOROETHENE	UG/L			<1.0	2.0
TRANS-1,2-DICHLOROETHENE	UG/L			<1.0	51.2
TOTAL COLIFORM PER 100 ML NO.				>2400.0	1100.0
TETRACHLOROETHENE	UG/L			<1.0	<1.0
TRICHLOROETHENE	UG/L			<1.0	8.0
BROMODICHLOROMETHANE	UG/L			<1.0	<1.0
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	185.0	169.0	20.0	22.0
BOD	MG/L	345.0	54.0	6.0	11.0
COD	MG/L	22.0	52.0	73.0	49.0
SPECIFIC CONDUCTANCE	UMHOS	280.0	364.0	1160.0	1340.0
PH	SU	6.5	6.1	7.6	6.8
TEMPERATURE	DEG. C	14.0	15.0		
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	6.9	.07	30.0	125.0
BORON	MG/L	.04	.08	.34	.04
CHLORIDE	MG/L	15.2	39.7	110.0	66.0
FLUORIDE	MG/L	.084	.054	.13	.21
IRON	MG/L	7.61	11.6	1.15	4.31
NITRATE	MG/L	.53	1.42	<.09	1.87
PHOSPHATE	MG/L	.12	.19	9.7	.049
SULFATE	MG/L	24.22	67.1	2.75	197.2
SODIUM	MG/L	33.5	44.6	198.0	26.0
POTASSIUM	MG/L	3.16	3.3	5.2	5.1
BARIUM (GF)	MG/L	.127	.044	.146	.024
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	1.92	3.07	.81	5.65
SULFIDE AS S	MG/L	<1.0	<1.0	1.0	1.2

000342

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

000343

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		CR-14	CR-15	CR-16	CR-17
		N313925 /N313920	N313926 /N313921	N402035 /N402038	N401827 /N401824
		14710 /	14711 /	20733 /	20601 /
	CATEGORY 2 PARAMETERS				
	TIN	MG/L <1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS				
	OIL AND GREASE	MG/L <1.0	<1.0	2.0	3.0
	SURFACTANTS (MBAS)	MG/L .088	.042	.597	.369
	METHYL ETHYL KETONE	MG/L <.1	<.1	<.1	<.1
	ISOBUTYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
	N-BUTYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
	ISOPROPYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
	ETHANOL	MG/L <.1	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L <10.0	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L <.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L <.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L <.1	<.1	<.1	<.1
	STYRENE	MG/L <.1	<.1	<.1	<.1
	ACETONE	MG/L <.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L <.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L <.1	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L <.1	<.1	<.1	<.1
	DITHANE	MG/L <.02	<.02	<.02	<.02
	LETHANE	MG/L <.001	<.001	<.001	<.001
	KARATHANE	MG/L <.01	<.01	<.01	<.01
	DNCP	MG/L <.01	<.01	<.01	<.01
	CATEGORY 4 PARAMETERS				
T1	ANTIMONY	MG/L <.15	<.15	.45	<.16
T2	ARSENIC	MG/L .004	.004	<.001	.005
T3	BERYLLIUM	MG/L <.01	<.01	<.01	<.01
T4	CADMIUM	MG/L <.0005	<.0005	<.01	<.01
T5	CHROMIUM	MG/L .01	.01	<.02	<.02
T6	COPPER	MG/L <.03	<.03	<.03	<.03
T7	LEAD	MG/L <.002	<.002	.009	.003
T8	MERCURY	MG/L .0005	.0002	.0002	<.0002

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			CR-14	CR-15	CR-16	CR-17
			N313925 /N313920	N313926 /N313921	N402035 /N402038	N401827 /N401824
			14710 /	14711 /	20733 /	20601 /
			CATEGORY 4 PARAMETERS			
T9	NICKEL	MG/L	<.1	.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.02	<.02
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.65	.4	.08	.034
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	<.002	<.002	.015	.003
			CATEGORY 4 PARAMETERS			
V1	ACROLEIN	UG/L	<100.0	<100.0		
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<.1	
V3	BENZENE	UG/L	<10.0	<10.0	<.1	<.1
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0		
V5	BROMOFORM	UG/L	<10.0	<10.0	<.1	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	16.7	<1.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<1.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0		
V11	CHLOROFORM	UG/L	<10.0	<10.0	<1.0	<1.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<1.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0		
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<1.0	4.4
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<.1	2.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPRUPENE	UG/L	<10.0	<10.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<.1	<.1
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<1.0	<1.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<.1	<1.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<1.0	<1.0
V26	TOLUENE	UG/L	<10.0	<10.0	<1.0	<.1
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<1.0	51.2
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<1.0	<1.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<1.0	

000344

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			CR-14	CR-15	CR-16	CR-17
			N313925 /N313920	N313926 /N313921	N402035 /N402038	N401827 /N401824
			14710 /	14711 /	20733 /	20601 /
			CATEGORY 4 PARAMETERS			
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0		
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<1.0	<1.0
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0	<10.0		
			CATEGORY 4 PARAMETERS			
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0		
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<.1	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<.1	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			CR-14	CR-15	CR-16	CR-17
			N313925 /N313920	N313926 /N313921	N402035 /N402038	N401827 /N401824
			14710 /	14711 /	20733 /	20601 /
			CATEGORY 4 PARAMETERS			
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L			<10.0	<10.0
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<100.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

000346

000347

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-14	CR-15	CR-16	CR-17
	N313925 /N313920	N313926 /N313921	N402035 /N402038	N401827 /N401824
	14710 /	14711 /	20733 /	20601 /

CATEGORY 4 PARAMETERS

P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*	*	*	*
GROSS B RADIOACTIVITY	PC I/L	*	*	*	*
TOTAL RADIUM	PC I/L	<1.0	1.5	<1.0	3.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	CR-18	CR-19A	CR-19B	CR-20A
	N401823 /N401826	N401830 /N401828	N401829 /N401831	N402810 /N402797
	N402807 /20600	N402808 /20602	N402809 /20603	/

CATEGORY 0 PARAMETERS

1,1-DICHLOROETHENE	UG/L	4.9	22.6	<1.0	6.6
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0	<1.0	<1.0	<.1
TOTAL COLIFORM PER 100 ML NO.		460.0	240.0	460.0	
TETRACHLOROETHENE	UG/L	9.6	3.7	<1.0	<.1
TRICHLOROETHENE	UG/L	230.0	522.0	18.7	315.0
BROMODICHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<.1

CATEGORY 1 PARAMETERS

TOTAL ORGANIC CARBON	MG/L	31.0	4.0	10.0	
COD	MG/L	41.0	28.0	10.0	3660.0
SPECIFIC CONDUCTANCE	UMHOS	160.0	95.0	182.0	2550.0
PH	SU	5.5	7.0	6.7	6.7

CATEGORY 2 PARAMETERS

NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05	262.0
CHLORIDE	MG/L	12.2	13.0	15.0	
FLUORIDE	MG/L	.06	.05	.04	
IRON	MG/L	.06	.06	.06	
NITRATE	MG/L	2.95	1.96	1.6	
SULFATE	MG/L	41.3	.98	43.0	466.1
SODIUM	MG/L	9.87	8.08	12.3	
POTASSIUM	MG/L	2.17	1.54	1.64	
BARIUM (GF)	MG/L	.055	.014	.087	
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	.52	.2	<.02	
SULFIDE AS S	MG/L	<1.0	1.2	1.1	
TIN	MG/L	<1.0	<1.0	<1.0	
BORON	MG/L	.04	.02	.04	
PHOSPHATE, TOTAL AS P	MG/L	<.01	.013	.013	

CATEGORY 3 PARAMETERS

OIL AND GREASE	MG/L	4.0	4.0	3.0

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

000348

000349

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

		CR-18	CR-19A	CR-19B	CR-20A
		N401823 /N401826	N401830 /N401828	N401831 /N401829	N402810 /N402797
		N402807 /20600	N402808 /20602	N402809 /20603	/
	CATEGORY 2 PARAMETERS				
	MANGANESE	MG/L	.52	.2	<.02
	SULFIDE AS S	MG/L	<1.0	1.2	1.1
	TIN	MG/L	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS				
	OIL AND GREASE	MG/L	4.0	4.0	3.0
	SURFACTANTS (MBAS)	MG/L	.016	.063	.029 .26
	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1
	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	<.02
	LETHANE	MG/L	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01
	CATEGORY 4 PARAMETERS				
T1	ANTIMONY	MG/L	<.16	.3	.3
T2	ARSENIC	MG/L	.004	.009	.006
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM	MG/L	.01	<.01	<.01
T5	CHROMIUM	MG/L	<.02	<.02	<.02
T6	COPPER	MG/L	<.03	<.03	<.03
T7	LEAD	MG/L	.003	.003	.005
T8	MERCURY	MG/L	.0002	<.0002	<.0002

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

000350

	CR-18	CR-19A	CR-19B	CR-20A
	N401823 /N401826	N401830 /N401828	N401831 /N401829	N402810 /N402797
	N402807 /20600	N402808 /20602	N402809 /20603	/

CATEGORY 4 PARAMETERS

T9	NICKEL	MG/L	<.1	<.1	<.1	
T10	SELENIUM	MG/L	<.001	<.001	<.001	
T11	SILVER	MG/L	<.02	<.02	<.02	
T12	THALLIUM	MG/L	<.3	<.3	<.3	
T13	ZINC	MG/L	.034	.024	.15	
T14	CYANIDE	MG/L	<.005	<.005	<.005	
T15	PHENOLS	MG/L	.01	.006	.002	

CATEGORY 4 PARAMETERS

V3	BENZENE	UG/L	<.1	<.1	<.1	<.1
V5	BROMOFORM	UG/L	<1.0	<1.0	<1.0	<.1
			<.1	<.1	<.1	<.1
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0	<.1
			<.1	<.1	<.1	<.1
V7	CHLOROBENZENE	UG/L	<.1	<1.0	<1.0	<1.0
			<.1	<.1	<.1	<.1
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<.1
			<.1	<.1	<.1	<.1
V11	CHLOROFORM	UG/L	<1.0	<1.0	2.6	<.1
			2.4	.8	<.1	.1
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	5.7
			<.1	<.1	<.1	<.1
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<.1
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0	<.1
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<1.0	<1.0	<1.0	<.1
			<.1	<.1	<.1	<.1
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<1.0	<1.0	<1.0	<.1
			<.1	<.1	<.1	<.1
V20	ETHYLBENZENE	UG/L	<.1	<.1	<.1	
V21	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0	<.1
			<.1	<.1	<.1	<.1
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<.1
			<.1	<.1	<.1	<.1
V23	METHYLENE CHLORIDE	UG/L	<1.0	1.8	1.6	1.9
			5.3	4.4	3.5	4.5
V26	TOLUENE	UG/L	<.1	<.1	<.1	<.1
V28	1,1,1-TRICHLOROETHANE	UG/L	25.4	130.0	3.2	19.4
			11.0	75.8	2.1	30.5

000351

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITURING WELL

APR 13, 1984

			CR-18	CR-19A	CR-19B	CR-20A
			N401823 /N401826	N401830 /N401828	N401831 /N401829	N402810 /N402797
			N402807 /20600	N402808 /20602	N402809 /20603	/
			CATEGORY 4 PARAMETERS			
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	<.1
			<.1	<.1	<.1	<.1
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0	<.1
			<.1	<.1	<.1	<.1
			CATEGORY 4 PARAMETERS			
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	
B20	1,2-DICHLOROBENZENE	UG/L	<.2	<.2	<.2	<.1
			<.1	<.1	<.1	
B21	1,3-DICHLOROBENZENE	UG/L	<.3	<.3	<.3	<.1
			<.1	<.1	<.1	
B22	1,4-DICHLOROBENZENE	UG/L	<.2	<.2	<.2	<.1
			<.1	<.1	<.1	
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

			CR-18	CR-19A	CR-19B	CR-20A
			N401823 /N401826	N401830 /N401828	N401831 /N401829	N402810 /N402797
			N402807 /20600	N402808 /20602	N402809 /20603	/
	CATEGORY 4 PARAMETERS					
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
	CATEGORY 4 PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
	CATEGORY 4 PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	

000352

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

EC0033

	CR-18	CR-19A	CR-19B	CR-20A
	N401823 /N401826	N401830 /N401828	N401831 /N401829	N402810 /N402797
	N402807 /20600	N402808 /20602	N402809 /20603	/

CATEGORY 4 PARAMETERS

P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*	*	*
GROSS B RADIOACTIVITY	PC I/L	*	*	*
TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

		CR-20B	CR-21A	CR-21B	CR-21C
		N402811 /N402798	N402812 /N402799	N402813 /N402800	N402814 /N402801
		/	/	/	/
	CATEGORY 0 PARAMETERS				
	1,1-DICHLOROETHENE	UG/L	<.1	7.4	<.1	5.3
	TRANS-1,2-DICHLOROETHENE	UG/L	.7	<.1	<.1	<.1
	TETRACHLOROETHENE	UG/L	<.1	1.6	<.1	1.8
	TRICHLOROETHENE	UG/L	8.3	240.0	8.2	202.0
	BROMODICHLOROMETHANE	UG/L	<.1	<.1	<.1	<.1
	CATEGORY 1 PARAMETERS				
	COD	MG/L	93.0	335.0	70.0	3820.0
	SPECIFIC CONDUCTANCE	UMHOS	175.0	230.0	385.0	107.0
	PH	SU	5.8	5.6	5.4	6.0
	CATEGORY 2 PARAMETERS				
	NITROGEN, AMMONIA	MG/L	2.15	<.05	<.05	<.05
	SULFATE	MG/L	27.1	28.0	55.4	2.11
	CATEGORY 3 PARAMETERS				
	SURFACTANTS (MBAS)	MG/L	.1	.025	.06	.05
	CATEGORY 4 PARAMETERS				
V3	BENZENE	UG/L	<.1			<.1
V5	BROMOFORM	UG/L	<.1	<.1	<.1	<.1
V6	CARBON TETRACHLORIDE	UG/L	<.1	<.1	1.0	<.1
V7	CHLOROBENZENE	UG/L	<.1	<1.0	<.1	<.1
			<1.0			
V9	CHLOROETHANE	UG/L	<.1	<.1	<.1	<.1
V11	CHLOROFORM	UG/L	<.1	1.9	2.7	.5
V14	1,1-DICHLOROETHANE	UG/L	<.1	1.0	<.1	2.3

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000355

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

			CR-20B	CR-21A	CR-21B	CR-21C
			N402811 /N402798	N402812 /N402799	N402813 /N402800	N402814 /N402801
			/	/	/	/
			CATEGORY 4 PARAMETERS			
V15	1,2-DICHLOROETHANE	UG/L	<.1	<.1	<.1	<.1
V17	1,2-DICHLOROPROPANE	UG/L	<.1	<.1	<.1	<.1
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<.1	<.1	<.1	<.1
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<.1	<.1	<.1	<.1
V20	ETHYLBENZENE	UG/L	<.1			<.1
V21	BROMOMETHANE	UG/L	<.1	<.1	<.1	<.1
V22	CHLOROMETHANE	UG/L	<.1	<.1	<.1	<.1
V23	METHYLENE CHLORIDE	UG/L	1.4	.9	2.2	<.1
V26	TOLUENE	UG/L	<.1			<.1
V28	1,1,1-TRICHLOROETHANE	UG/L	2.2	28.0	<.1	27.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<.1	<.1	<.1	<.1
V32	VINYL CHLORIDE	UG/L	<.1	<.1	<.1	<.1
			CATEGORY 4 PARAMETERS			
B20	1,2-DICHLOROBENZENE	UG/L	<.1	<.1	<.1	<.1
B21	1,3-DICHLOROBENZENE	UG/L	<.1	<.1	<.1	<.1
B22	1,4-DICHLOROBENZENE	UG/L	<.1	<.1	<.1	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

CH-22

000356

N402815 /N402802 / / /

/ / / /

CATEGORY 0 PARAMETERS

1,1-DICHLOROETHENE	UG/L	<.1
TRANS-1,2-DICHLOROETHENE	UG/L	<.1
TETRACHLOROETHENE	UG/L	<.1
TRICHLOROETHENE	UG/L	69.2
BROMODICHLOROMETHANE	UG/L	<.1

CATEGORY 1 PARAMETERS

COD	MG/L	230.0
SPECIFIC CONDUCTANCE	UMHOS	935.0
PH	SU	6.0

CATEGORY 2 PARAMETERS

NITROGEN, AMMONIA	MG/L	<.05
SULFATE	MG/L	51.3

CATEGORY 3 PARAMETERS

SURFACTANTS (MBAS)	MG/L	.18

CATEGORY 4 PARAMETERS

V3	BENZENE	UG/L	<.1
V5	BROMOFORM	UG/L	<.1
V6	CARBON TETRACHLORIDE	UG/L	<.1
V7	CHLOROBENZENE	UG/L	<.1
V9	CHLOROETHANE	UG/L	<.1
V11	CHLOROFORM	UG/L	2.1
V14	1,1-DICHLOROETHANE	UG/L	<.1
V15	1,2-DICHLOROETHANE	UG/L	<.1
V17	1,2-DICHLOROPROPANE	UG/L	<.1
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

CR-22

N402815 /N402802	/	/	/
/	/	/	/

CATEGORY 4 PARAMETERS

V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<.1
V20	ETHYLBENZENE	UG/L	<.1
V21	BROMOMETHANE	UG/L	<.1
V22	CHLOROMETHANE	UG/L	<.1
V23	METHYLENE CHLORIDE	UG/L	.2
V26	TOLUENE	UG/L	<.1
V28	1,1,1-TRICHLOROETHANE	UG/L	5.1
V31	TRICHLOROFLUOROMETHANE	UG/L	<.1
V32	VINYL CHLORIDE	UG/L	<.1

CATEGORY 4 PARAMETERS

B20	1,2-DICHLOROBENZENE	UG/L	<.1
B21	1,3-DICHLOROBENZENE	UG/L	<.1
B22	1,4-DICHLOROBENZENE	UG/L	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		LF-1	LF-2	LF-3A	LF-3B
		N313927 /N313922	N313928 /N313923	N313999 /N313995	N313929 /N313924
		14712 /	14713 /	14718 /	14714 /
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	278.0	812.0	43.0	363.0
BOD	MG/L	72.0	46.0	8.0	8.0
COD	MG/L	365.0	193.0	60.0	125.0
SPECIFIC CONDUCTANCE	UMHOS	2854.0	3323.0	994.0	2016.0
PH	SU	6.9	6.7	7.0	6.7
TEMPERATURE	DEG. C	14.0	17.0	13.0	16.0
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	216.0	134.0	42.5	136.0
BORON	MG/L	.52	1.65	.03	.22
CHLORIDE	MG/L	156.0	398.0	100.0	194.0
FLUORIDE	MG/L	.196	.18	.18	.125
IRON	MG/L	16.3	53.2	34.6	33.7
NITRATE	MG/L	<.05	.08	<.05	<.05
PHOSPHATE	MG/L	3.2	1.2	.1	1.9
SULFATE	MG/L	1.63	1.11	13.86	4.87
SODIUM	MG/L	174.0	414.0	103.0	107.0
POTASSIUM	MG/L	42.6	34.2	54.0	26.6
BARIUM (GF)	MG/L	.028	.028	.178	.026
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	4.63	.43	4.5	1.29
SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0
TIN	MG/L	<1.0	<1.0	<1.0	<1.0
CATEGORY 3 PARAMETERS					
OIL AND GREASE	MG/L	3.0	2.0	<1.0	<1.0
SURFACTANTS (MBAS)	MG/L	1.27	.818	.626	.785
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

000358

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

000359

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		LF-1	LF-2	LF-3A	LF-3B
		N313927 /N313922	N313928 /N313923	N313999 /N313995	N313929 /N313924
		14712 /	14713 /	14718 /	14714 /
		CATEGORY 3 PARAMETERS			
	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	<.02	<.02
	LETHANE	MG/L	<.001	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01	<.01
		CATEGORY 4 PARAMETERS			
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC	MG/L	.007	.004	.015	.004
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.0005	<.0005	<.0005	.0051
T5	CHROMIUM	MG/L	.023	.027	.013	.017
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD	MG/L	.002	.002	.002	.002
T8	MERCURY	MG/L	<.0002	.0002	<.0002	.001
T9	NICKEL	MG/L	.1	.1	<.1	.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.13	1.04	.02	.16
T14	CYANIDE	MG/L	.007	.006	.007	.005
T15	PHENOLS	MG/L	.054	.152	.01	.01
		CATEGORY 4 PARAMETERS			
V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0	<100.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

000360

	LF-1	LF-2	LF-3A	LF-3B
	N313927 /N313922	N313928 /N313923	N313999 /N313995	N313929 /N313924
	14712 /	14713 /	14718 /	14714 /

CATEGORY 4 PARAMETERS

V2	ACRYLONITRILE	UG/L	<100.0	<1000.0	<100.0	<100.0
V3	BENZENE	UG/L	23.0	200.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<100.0	<10.0	<10.0
V5	BROMOFORM	UG/L	<10.0	<100.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<100.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<10.0	<100.0	<10.0	11.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<100.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<100.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<100.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<100.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<100.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<100.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	<10.0	<100.0	<10.0	16.0
V21	BROMOMETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<100.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<100.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<100.0	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<100.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<100.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<100.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<10.0	<100.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L				

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL · BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-1	LF-2	LF-3A	LF-3B
			N313927 /N313922	N313928 /N313923	N313999 /N313995	N313929 /N313924
			14712 /	14713 /	14718 /	14714 /
	CATEGORY 4 PARAMETERS					
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLORGBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	14.0	16.0
B39	NAPHTHALENE	UG/L	<10.0	12.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL . BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-1	LF-2	LF-3A	LF-3B
			N313927 /N313922	N313928 /N313923	N313999 /N313995	N313929 /N313924
			14712 /	14713 /	14718 /	14714 /
			CATEGORY 4 PARAMETERS			
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L				
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	190.0	<25.0	<25.0	33.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0

000362

000363

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-1	LF-2	LF-3A	LF-3B
			N313927 /N313922	N313928 /N313923	N313999 /N313995	N313929 /N313924
			14712 /	14713 /	14718 /	14714 /
			CATEGORY 4 PARAMETERS			
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<.1	<.1	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.05	<.5
			CATEGORY 5 PARAMETERS			
	GROSS A RADIOACTIVITY	PC I/L	*	*	*	*
	GROSS B RADIOACTIVITY	PC I/L	*	*	*	*
	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	11.6

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	LF-4	LF-5	LF-6A	LF-7
	N313996 /N314000	N313997 /N314001	N314024 /N314023	N314002 /N313998
	14719 /	14720 /	14722 /	14721 /
CATEGORY 1 PARAMETERS				
TOTAL ORGANIC CARBON MG/L	69.0	282.0	13.0	364.0
BOD MG/L	8.0	5.0	300.0	60.0
COD MG/L	157.0	24.0	60.0	263.0
SPECIFIC CONDUCTANCE UMHOS	1609.0	640.0	420.0	1190.0
PH SU	6.7	6.5	6.6	6.7
TEMPERATURE DEG. C	16.0	15.0	13.0	14.0
CATEGORY 2 PARAMETERS				
NITROGEN, AMMONIA MG/L	124.0	19.8	1.98	2.34
BORON MG/L	.17	.01	.05	.05
CHLORIDE MG/L	95.0	17.5	41.3	58.2
FLUORIDE MG/L	.196	.087	.2	.12
IRON MG/L	43.4	46.3	14.1	39.1
NITRATE MG/L	<.05	<.05	<.05	<.05
PHOSPHATE MG/L	.2	.2	.1	.7
SULFATE MG/L	12.83	35.8	2.68	75.21
SODIUM MG/L	43.0	15.4	42.0	98.8
POTASSIUM MG/L	29.1	7.94	15.2	16.5
BARIUM (GF) MG/L	.73	.485	.183	.178
FORMALDEHYDE MG/L	*	*	*	*
MANGANESE MG/L	.9	9.38	1.04	4.63
SULFIDE AS S MG/L	<1.0	<1.0	<1.0	<1.0
TIN MG/L	<1.0	<1.0	<1.0	<1.0
CATEGORY 3 PARAMETERS				
OIL AND GREASE MG/L	2.0	1.0	2.0	2.0
SURFACTANTS (MBAS) MG/L	2.22	.05	.064	.482
METHYL ETHYL KETONE MG/L	<.1	<.1	<.1	<.1
ISOBUTYL ALCOHOL MG/L	<.1	<.1	<.1	<.1
N-BUTYL ALCOHOL MG/L	<.1	<.1	<.1	<.1

000364

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

000365

	LF-4	LF-5	LF-6A	LF-7
	N313996 /N314000	N313997 /N314001	N314024 /N314023	N314002 /N313998
	14719 /	14720 /	14722 /	14721 /

CATEGORY 3 PARAMETERS

	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	<.02	<.02
	LETHANE	MG/L	<.001	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01	<.01

CATEGORY 4 PARAMETERS

T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC	MG/L	.005	.009	.015	<.001
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM	MG/L	.0006	.0006	.0019	.0005
T5	CHROMIUM	MG/L	.015	.012	.011	.013
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD	MG/L	.002	.002	<.002	.002
T8	MERCURY	MG/L	.0003	<.0002	.0009	<.0002
T9	NICKEL	MG/L	.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.17	.08	.06	.04
T14	CYANIDE	MG/L	.006	<.005	<.005	.006
T15	PHENOLS	MG/L	.066	.01	.009	.02

CATEGORY 4 PARAMETERS

V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0	<100.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

000366

	LF-4	LF-5	LF-6A	LF-7
	N313996 /N314000	N313997 /N314001	N314024 /N314023	N314002 /N313998
	14719 /	14720 /	14722 /	14721 /

CATEGORY 4 PARAMETERS

V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0	<100.0
V3	BENZENE	UG/L	60.0	<10.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	48.0	<10.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	20.0	<10.0	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L				

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0

000367

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-4	LF-5	LF-6A	LF-7
			N313996 /N314000	N313997 /N314001	N314024 /N314023	N314002 /N313998
			14719 /	14720 /	14722 /	14721 /
	CATEGORY 4 PARAMETERS					
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	770.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPHOPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL, BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

000368

			LF-4	LF-5	LF-6A	LF-7
			N313996 /N314000	N313997 /N314001	N314024 /N314023	N314002 /N313998
			14719 /	14720 /	14722 /	14721 /
			CATEGORY 4 PARAMETERS			
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L				
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0

000369

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	LF-4	LF-5	LF-6A	LF-7
	N313996 /N314000	N313997 /N314001	N314024 /N314023	N314002 /N313998
	14719 /	14720 /	14722 /	14721 /

CATEGORY 4 PARAMETERS

P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

	GROSS A RADIOACTIVITY	PC I/L	*	*	*	*
	GROSS B RADIOACTIVITY	PC I/L	*	*	*	*
	TOTAL RADIUM	PC I/L	5.0	1.7	<1.0	<1.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL, BRISTOL, PENNSYLVANIA — APR 8, 1984

MONITORING WELL

		LF-8	LF-9	LF-10	LF-11
		N313833 /N313829	N313433 /N313436	N313434 /N313437	N313435 /N313438
		14543 /	14324 /14329	14330 /	14333 /14327
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	23.0	187.0	174.0	110.0
BOD	MG/L	43.0	250.0	58.0	7.0
COD	MG/L	123.0	419.0	344.0	210.0
SPECIFIC CONDUCTANCE	UMHOS	2280.0	1764.0	1740.0	2200.0
PH	SU	6.9	5.7	6.7	6.9
TEMPERATURE	DEG. C	17.0	14.0	14.0	13.0
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	142.0	.78	135.0	129.0
BORON	MG/L	.81	.2	.3	.16
CHLORIDE	MG/L	147.0	427.0	34.5	118.0
FLUORIDE	MG/L	.405	.09	.48	.23
IRON	MG/L	9.06	25.9	21.4	1.65
NITRATE	MG/L	<.05	<2.5	.2	1.35
PHOSPHATE	MG/L	1.6	.06	2.2	1.1
SULFATE	MG/L	6.09	88.5	101.0	23.1
SODIUM	MG/L	222.0	267.0	91.6	214.0
POTASSIUM	MG/L	21.9	8.96	14.9	14.2
BARIUM (GF)	MG/L	.084	.179	.105	.132
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	.14	8.63	1.37	6.25
SULFIDE AS S	MG/L	1.0	<1.0	<1.0	<1.0
TIN	MG/L	<1.0	<1.0	<1.0	<1.0
CATEGORY 3 PARAMETERS					
OIL AND GREASE	MG/L	<1.0	<1.0	2.0	<1.0
SURFACTANTS (MBAS)	MG/L	.729	.99	3.11	2.19
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

000370

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

000371

			LF-8	LF-9	LF-10	LF-11
			N313833 /N313829	N313433 /N313436	N313434 /N313437	N313435 /N313438
			14543 /	14324 /14329	14330 /	14333 /14327
			CATEGORY 3 PARAMETERS			
	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	<.02	<.02
	LETHANE	MG/L	<.001	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01	<.01
			CATEGORY 4 PARAMETERS			
T1	ANTIMONY	MG/L	<.15	.2	.15	<.15
T2	ARSENIC	MG/L	.118	.004	.004	.004
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.0005	.0011	.0008	.0012
T5	CHROMIUM	MG/L	.012	.013	.016	.002
T6	COPPER	MG/L	<.03	<.03	.03	.05
T7	LEAD	MG/L	<.002	<.002	<.002	<.002
T8	MERCURY	MG/L	.0005	<.0002	<.0004	<.0002
T9	NICKEL	MG/L	<.1	.1	.1	.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.11	.21	.02	.14
T14	CYANIDE	MG/L	.007	<.005	<.005	<.005
T15	PHENOLS	MG/L	<.026	.026	.02	.02
			CATEGORY 4 PARAMETERS			
V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0	<100.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-8	LF-9	LF-10	LF-11
			N313833 /N313829	N313433 /N313436	N313434 /N313437	N313435 /N313438
			14543 /	14324 /14329	14330 /	14333 /14327
			CATEGORY 4 PARAMETERS			
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0	<100.0
V3	BENZENE	UG/L	49.0	<10.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	40.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	14.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<12.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L				
			CATEGORY 4 PARAMETERS			
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0

000372

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

000373

			LF-8	LF-9	LF-10	LF-11
			N313833 /N313829	N313433 /N313436	N313434 /N313437	N313435 /N313438
			14543 /	14324 /14329	14330 /	14333 /14327
			CATEGORY 4 PARAMETERS			
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	13.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — APR 8, 1984
MONITORING WELL

			LF-8	LF-9	LF-10	LF-11
			N313833 /N313829	N313433 /N313436	N313434 /N313437	N313435 /N313438
			14543 /	14324 /14329	14330 /	14333 /14327
			CATEGORY 4 PARAMETERS			
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L				
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0

000374

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

000375

			LF-8	LF-9	LF-10	LF-11
			N313833 /N313829	N313433 /N313436	N313434 /N313437	N313435 /N313438
			14543 /	14324 /14329	14330 /	14333 /14327
			CATEGORY 4 PARAMETERS			
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
			CATEGORY 5 PARAMETERS			
	GROSS A RADIOACTIVITY	PC I/L	*	*	*	*
	GROSS B RADIOACTIVITY	PC I/L	*	*	*	*
	TOTAL RADIUM	PC I/L	2.0	<1.0	1.0	5.0
			CATEGORY 6 PARAMETERS			
	DIOXIN	PPB	NT	<.0003	<.0002	<.0004

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

NT - NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

		LF-12	LF-13A	LF-13B	LF-14
		N313478 /N313483	N401706 /N401698	N313484 /N313479	N313485 /N313480
		14328 /14334	N402816 /20593	N402817 /14335	14336 /
CATEGORY 0 PARAMETERS					
1,1-DICHLOROETHENE	UG/L		16.9 4.3	1.1	
TRANS-1,2-DICHLOROETHENE	UG/L		<1.0 <.1	5.5	
TETRACHLOROETHENE	UG/L		<1.0 2.9	1.8	
TRICHLOROETHENE	UG/L		341.0 187.0	130.0	
BROMODICHLOROMETHANE	UG/L		<1.0 <.1	<.1	
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	26.0	40.0	29.0	9.0
BOD	MG/L	16.0	23.0	6.0	<3.0
COD	MG/L	40.0	40.0	154.0	12.0
SPECIFIC CONDUCTANCE	UMHOS	340.0	99.0	228.0	177.0
PH	SU	5.6	5.9	5.6	5.9
TEMPERATURE	DEG. C	14.0		14.0	15.0
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05	<.05
BORON	MG/L	.05	.09	.09	.04
CHLORIDE	MG/L	40.6	11.5	27.3	7.35
FLUORIDE	MG/L	.07	.03	.04	.06
IRON	MG/L	4.95	.91	<.04	<.04
NITRATE	MG/L	1.52	1.79	3.41	2.57
PHOSPHATE	MG/L	.08	.027	.09	.01
SULFATE	MG/L	47.8	1.94	33.0	30.5
SODIUM	MG/L	40.1	9.15	15.4	7.51
POTASSIUM	MG/L	3.16	1.67	3.01	2.58
BARIUM (GF)	MG/L	.055	.024	.119	.084
FORMALDEHYDE	MG/L	*	*	*	*

000376

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

000371

	LF-12	LF-13A	LF-13B	LF-14
	N313478 /N313483	N401706 /N401698	N313484 /N313479	N313485 /N313480
	14328 /14334	N402816 /20593	N402817 /14335	14336 /

CATEGORY 2 PARAMETERS

	MANGANESE	MG/L	.8	.408	.62	.07
	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0
	TIN	MG/L	<1.0	<1.0	<1.0	<1.0

CATEGORY 3 PARAMETERS

	OIL AND GREASE	MG/L	<1.0	2.0	<1.0	<1.0
	SURFACTANTS (MBAS)	MG/L	.65	.054	.25	.7
	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	<.02	<.02
	LETHANE	MG/L	<.001	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01	<.01

CATEGORY 4 PARAMETERS

T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC	MG/L	.004	<.001	.004	.004
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.0005	<.01	.0009	.0007
T5	CHROMIUM	MG/L	.006	<.02	<.002	<.002
T6	COPPER	MG/L	.05	<.03	.05	.05
T7	LEAD	MG/L	<.002	.01	<.002	<.002
T8	MERCURY	MG/L	<.0002	<.0002	<.0002	<.0002

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

	LF-12	LF-13A	LF-13B	LF-14
	N313478 /N313483	N401706 /N401698	N313484 /N313479	N313485 /N313480
	14328 /14334	N402816 /20593	N402817 /14335	14336 /

CATEGORY 4 PARAMETERS

T9	NICKEL	MG/L	.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.02	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.01	<.01	.11	.07
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	.005	.004	.003	.002

000378

CATEGORY 4 PARAMETERS

V1	ACROLEIN	UG/L	<100.0		<100.0	<100.0
V2	ACRYLONITRILE	UG/L	<100.0		<100.0	<100.0
V3	BENZENE	UG/L	<10.0	<.1	<10.0	<10.0
				<.1	<.1	
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0		<10.0	<10.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V8	CHLORODIBROMOMETHANE	UG/L	<10.0		<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0		<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<1.7	<10.0	<10.0
				.3	.1	
V12	DICHLOROBROMOMETHANE	UG/L	<10.0		<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0		<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<10.0
				.5	.5	
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0		<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V20	ETHYLBENZENE	UG/L	<10.0	<.1	<10.0	<10.0

000379

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

			LF-12	LF-13A	LF-13B	LF-14
			N313478 /N313483	N401706 /N401698	N313484 /N313479	N313485 /N313480
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			CATEGORY 4 PARAMETERS			
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.1	<10.0	<10.0
				2.1	2.2	
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0		<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0		<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<.1	<10.0	<10.0
				<.1	<.1	
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0		12.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	45.0	<10.0
				49.0	24.0	
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0		<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0		230.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<10.0	<10.0
				<.1	<.1	
V33	DIBROMOCHLOROMETHANE	UG/L				
			CATEGORY 4 PARAMETERS			
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0		<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

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			N313478 /N313483	N401706 /N401698	N313484 /N313479	N313485 /N313480
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	CATEGORY 4 PARAMETERS					
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<.2	<10.0	<10.0
				<.1	<.1	
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<.3	<10.0	<10.0
				<.1	<.1	
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<.2	<10.0	<10.0
				<.1	<.1	
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L		<10.0		
	CATEGORY 4 PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

LF-12 LF-13A LF-13B LF-14

000380

000381

			N313478 /N313483	N401706 /N401698	N313484 /N313479	N313485 /N313480
			14328 /14334	N402816 /20593	N402817 /14335	14336 /
			CATEGORY 4 PARAMETERS			
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<5.0	<.5	<.5

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 13, 1984

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CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*	*	*	*
GROSS B RADIOACTIVITY	PC I/L	*	*	*	*
TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

CATEGORY 6 PARAMETERS

DIOXIN	PPB	<.001	NT	NT	NT

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

NT - NOT TESTED AS PART OF THIS STUDY

000382

000383

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		LF-15A	LF-15B	LF-16	LF-17
		N401695 /N401703	N313486 /N313481	N401696 /N401704	N401705 /N401697
		20590 /	14337 /	20591 /	20592 /
CATEGORY 0 PARAMETERS					
1,1-DICHLOROETHENE	UG/L	<1.0		<1.0	<1.0
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0		<1.0	<1.0
TOTAL COLIFORM PER 100 ML NO.		460.0		120.0	210.0
TETRACHLOROETHENE	UG/L	16.5		<1.0	<1.0
TRICHLOROETHENE	UG/L	<1.0		<1.0	<1.0
BROMODICHLOROMETHANE	UG/L	<1.0		<1.0	<1.0
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	25.0	15.0	23.0	22.0
BOD	MG/L	8.0	15.0	<3.0	32.0
COD	MG/L	40.0	29.0	23.0	32.0
SPECIFIC CONDUCTANCE	UMHOS	204.0	171.0	202.0	371.0
PH	SU	6.0	6.0	6.2	6.1
TEMPERATURE	DEG. C		14.0		
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05	
BORON	MG/L	.13	.05	.14	.09
CHLORIDE	MG/L	5.8	14.7	16.1	49.5
FLUORIDE	MG/L	.02	.05	.03	.04
IRON	MG/L	3.72	<.04	<.04	
NITRATE	MG/L	1.49	1.18	2.83	15.1
PHOSPHATE	MG/L	.02	.01	<.01	.034
SULFATE	MG/L	46.2	28.1	41.7	47.0
SODIUM	MG/L	11.4	15.4	15.4	23.8
POTASSIUM	MG/L	2.79	2.72	3.71	2.85
BARIUM (GF)	MG/L	.078	.042	.154	.071
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	.532	.63	.051	.641
SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	LF-15A	LF-15B	LF-16	LF-17
	N401695 /N401703	N313486 /N313481	N401696 /N401704	N401705 /N401697
	20590 /	14337 /	20591 /	20592 /

CATEGORY 2 PARAMETERS

	TIN	MG/L	<1.0	<1.0	<1.0	<1.0

CATEGORY 3 PARAMETERS

	OIL AND GREASE	MG/L	2.0	<1.0	1.0	2.0
	SURFACTANTS (MBAS)	MG/L	.107	.56	.098	.063
	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	<.04	<.02
	LETHANE	MG/L	<.001	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01	<.01

CATEGORY 4 PARAMETERS

T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC	MG/L	<.001	.004	<.001	<.001
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.01	.0012	<.01	<.01
T5	CHROMIUM	MG/L	<.02	<.002	<.02	<.02
T6	COPPER	MG/L	<.03	.05	<.03	<.03
T7	LEAD	MG/L	<.002	<.002	<.002	<.002
T8	MERCURY	MG/L	<.0002	<.0002	<2.0	.0002

000384

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-15A	LF-15B	LF-16	LF-17
			N401695 /N401703	N313486 /N313481	N401696 /N401704	N401705 /N401697
			20590 /	14337 /	20591 /	20592 /
			CATEGORY 4 PARAMETERS			
T9	NICKEL	MG/L	<.1	.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.02	<.001	<.02	<.02
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	<.02	<.01	.14	<.01
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	<.002	.002	.002	.002
			CATEGORY 4 PARAMETERS			
V1	ACROLEIN	UG/L		<100.0		
V2	ACRYLONITRILE	UG/L		<100.0		
V3	BENZENE	UG/L	<.1	<10.0	<.1	<.1
V4	BIS (CHLOROMETHYL) ETHER	UG/L		<10.0		
V5	BROMOFORM	UG/L	4.9	<10.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<10.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<10.0	<1.0	<1.0
V8	CHLORODIBROMOMETHANE	UG/L	8.2	<10.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<10.0	<1.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L		<10.0		
V11	CHLOROFORM	UG/L	<1.0	<10.0	<1.0	1.0
V12	DICHLOROBROMOMETHANE	UG/L	<1.0	<10.0	<1.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L		<10.0		
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<10.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<10.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<10.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<10.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	8.2	<10.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<1.0	<10.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<.1	<10.0	<.1	<.1
V21	BROMOMETHANE	UG/L	<1.0	<10.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<10.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	4.1	<10.0	4.4	2.5
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	16.5	<10.0	<1.0	<1.0
V25	TETRACHLOROETHYLENE	UG/L	16.5	<10.0	<1.0	<1.0
V26	TOLUENE	UG/L	<.1	<10.0	<.1	<.1
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<1.0	<10.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<10.0	<1.0	<1.0
V29	1,1,2-TRICHLOROETHANE	UG/L	8.2	<10.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-15A	LF-15B	LF-16	LF-17
			N401695 /N401703	N313486 /N313481	N401696 /N401704	N401705 /N401697
			20590 /	14337 /	20591 /	20592 /
			CATEGORY 4 PARAMETERS			
V30	TRICHLOROETHYLENE	UG/L	<1.0	<10.0		
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<10.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<10.0	<1.0	<1.0
V33	DIBROMOCHLOROMETHANE	UG/L				
			CATEGORY 4 PARAMETERS			
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L		<10.0		
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	14.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<.2	<10.0	<.2	<.2
B21	1,3-DICHLOROBENZENE	UG/L	<.3	<10.0	<.3	<.3
B22	1,4-DICHLOROBENZENE	UG/L	<.2	<10.0	<.2	<.2
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0

000386

000387

RUHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR. 8, 1984

			LF-15A	LF-15B	LF-16	LF-17
			N401695 /N401703	N313486 /N313481	N401696 /N401704	N401705 /N401697
			20590 /	14337 /	20591 /	20592 /
			CATEGORY 4 PARAMETERS			
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0		<10.0	<10.0
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-15A	LF-15B	LF-16	LF-17
			N401695 /N401703	N313486 /N313481	N401696 /N401704	N401705 /N401697
			20590 /	14337 /	20591 /	20592 /
		CATEGORY 4 PARAMETERS				
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<5.0
		CATEGORY 5 PARAMETERS				
	GROSS A RADIOACTIVITY	PC I/L	*	*	*	*
	GROSS B RADIOACTIVITY	PC I/L	*	*	*	*
	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

000388

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

000389

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

	LF-18	LF-19	LF-20	
	N401710 /N401702	N401709 /N401701	N401699 /N401707	/
	20599 /	20598 /	20596 /	/

CATEGORY 0 PARAMETERS

1,1-DICHLOROETHENE	UG/L	<1.0	<1.0	<1.0
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0	<1.0	<1.0
TOTAL COLIFORM PER 100 ML NO.		23.0	43.0	240.0
TETRACHLOROETHENE	UG/L	<1.0	<1.0	<1.0
TRICHLOROETHENE	UG/L	<1.0	<1.0	<.1
BROMODICHLOROMETHANE	UG/L	<1.0	<1.0	<1.0

CATEGORY 1 PARAMETERS

TOTAL ORGANIC CARBON	MG/L	24.0	8.0	31.0
BOD	MG/L	5.0	6.0	102.0
COD	MG/L	24.0	8.0	175.0
SPECIFIC CONDUCTANCE	UMHOS	263.0	203.0	179.0
PH	SU	5.5	6.1	5.6

CATEGORY 2 PARAMETERS

NITROGEN, AMMONIA	MG/L	<.05	.27	<.05
BORON	MG/L	.11	.11	.14
CHLORIDE	MG/L	36.8	17.0	11.5
FLUORIDE	MG/L	.04	.03	.05
IRON	MG/L	<.04	.73	.28
NITRATE	MG/L	2.86	2.68	3.55
PHOSPHATE, TOTAL AS P	MG/L	<.01	<.01	<.01
SULFATE	MG/L	46.5	37.7	32.6
SODIUM	MG/L	20.5	17.1	8.02
POTASSIUM	MG/L	2.27	1.88	2.53
BARIUM (DF)	MG/L	.163	.065	.052
FORMALDEHYDE	MG/L	*	*	*
MANGANESE	MG/L	.188	.944	.422
SULFIDE AS S	MG/L	<1.0	<1.0	<1.0
TIN	MG/L	<1.0	<1.0	<1.0

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

		LF-18	LF-19	LF-20	
		N401710 /N401702	N401709 /N401701	N401699 /N401707	/
		20599 /	20598 /	20596 /	/
	CATEGORY 3 PARAMETERS				
	OIL AND GREASE	MG/L	2.0	3.0	3.0
	SURFACTANTS (MBAS)	MG/L	.063	.036	<.007
	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1
	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1
	ETHANOL	MG/L	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	<.02
	LETHANE	MG/L	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01
	CATEGORY 4 PARAMETERS				
T1	ANTIMONY	MG/L	<.15	<.15	
T2	ARSENIC	MG/L	.001	.001	<.001
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.01	<.01	<.01
T5	CHROMIUM	MG/L	<.02	<.02	<.02
T6	COPPER	MG/L	<.03	<.03	<.03
T7	LEAD	MG/L	.012	.003	.005
T8	MERCURY	MG/L	<.0002	<.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	<.02	<.02	<.02
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	.15	.01	.01
T14	CYANIDE	MG/L	<.005	<.005	<.005
T15	PHENOLS	MG/L	.002	.006	.075

000390

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-18	LF-19	LF-20	
			N401710 /N401702	N401709 /N401701	N401699 /N401707	/
			20599 /	20598 /	20596 /	/
			CATEGORY 4 PARAMETERS			
V3	BENZENE	UG/L	<.1	<.1	<.1	
V5	BROMOFORM	UG/L	<1.0	<1.0	<1.0	
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0	
V7	CHLOROBENZENE	UG/L	<.1	<1.0	<1.0	
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	
V11	CHLOROFORM	UG/L	<1.0	<1.0	2.3	
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0	
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<1.0	<1.0	<1.0	
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<.1	<1.0	<1.0	
V20	ETHYLBENZENE	UG/L	<.1	<.1	<.1	
V21	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0	
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	
V23	METHYLENE CHLORIDE	UG/L	2.0	3.1	7.6	
V26	TOLUENE	UG/L	<.1	<.1	<.1	
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0	

000391

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

			LF-18	LF-19	LF-20	
			N401710 /N401702	N401709 /N401701	N401699 /N401707	/
			20599 /	20598 /	20596 /	/
			CATEGORY 4 PARAMETERS			
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	16.0	
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	
B20	1,2-DICHLOROBENZENE	UG/L	<.2	<.2	<.2	
B21	1,3-DICHLOROBENZENE	UG/L	<.3	<.3	<.3	
B22	1,4-DICHLOROBENZENE	UG/L	<.2	<.2	<.2	
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	

000392

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

APR 8, 1984

000393

			LF-18	LF-19	LF-20	
			N401710 /N401702	N401709 /N401701	N401699 /N401707	/
			20599 /	20598 /	20596 /	/
			CATEGORY 4 PARAMETERS			
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	

BCM

APPENDIX J

SURFACE WATER, SEDIMENT, AND SEEP ANALYTICAL RESULTS

000394

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

		DRW-1	DRW-2	DRW-3
		N315034 /N315040	N315041 /N315035	N315042 /N315036
		/	/	/

CATEGORY 1 PARAMETERS

TOTAL ORGANIC CARBON	MG/L	23.0	17.0	8.0
BOD	MG/L	<3.0	10.0	<3.0
COD	MG/L	16.0	20.0	12.0
SPECIFIC CONDUCTANCE	UMHOS	192.0	197.0	218.0
PH	SU	7.0	7.0	7.0

CATEGORY 2 PARAMETERS

NITROGEN, AMMONIA	MG/L	.08	.2	.26
BORON	MG/L	.05	.07	.07
CHLORIDE	MG/L	11.4	15.1	15.3
FLUORIDE	MG/L	.126	.175	.175
IRON	MG/L	.11	.15	.18
NITRATE	MG/L	1.5	1.43	1.34
PHOSPHATE	MG/L	.08	.06	.11
SULFATE	MG/L	24.64	25.53	.9
SODIUM	MG/L	9.24	10.9	12.6
POTASSIUM	MG/L	2.66	2.85	2.66
BARIUM (GF)	MG/L	.021	.02	.11
FORMALDEHYDE	MG/L	*	*	*
MANGANESE	MG/L	<.02	.04	.04
SULFIDE AS S	MG/L	<1.0	<1.0	<1.0
TIN	MG/L	<.76	<.76	<.76

000395

CATEGORY 3 PARAMETERS

OIL AND GREASE	MG/L	4.0	4.0	4.0
SURFACTANTS (MBAS)	MG/L	.433	.447	.394
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1
ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

960000

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			DRW-1	DRW-2	DRW-3	
			N315034 /N315040	N315041 /N315035	N315042 /N315036	/
			/	/	/	/

CATEGORY 3 PARAMETERS

	ETHANOL	MG/L	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
	DITHANE	MG/L			
	LETHANE	MG/L	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01

CATEGORY 4 PARAMETERS

T1	ANTIMONY	MG/L	<.17	<.17	<.17
T2	ARSENIC	MG/L	.006	.006	.006
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM	MG/L	.0006	.0006	.0008
T5	CHROMIUM	MG/L	.005	.005	.006
T6	COPPER	MG/L	<.03	<.03	<.03
T7	LEAD	MG/L	<.002	<.002	<.002
T8	MERCURY	MG/L	.0005	<.0004	<.0004
T9	NICKEL	MG/L	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	.02	<.01	.11
T14	CYANIDE	MG/L	<.005	.01	.01
T15	PHENOLS	MG/L	.003	.006	.004

CATEGORY 4 PARAMETERS

V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

000397

			DRW-1	DRW-2	DRW-3	
			N315034 /N315040	N315041 /N315035	N315042 /N315036	/
			/	/	/	/

CATEGORY 4 PARAMETERS

V3	BENZENE	UG/L	<10.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0	<10.0	<10.0

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0

000398

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			DRW-1	DRW-2	DRW-3	
			N315034 /N315040	N315041 /N315035	N315042 /N315036	/
			/	/	/	/

CATEGORY 4 PARAMETERS

B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			DRW-1	DRW-2	DRW-3	
			N315034 /N315040	N315041 /N315035	N315042 /N315036	/
			/	/	/	/
			CATEGORY 4 PARAMETERS			
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	

000399

000400

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			DRW-1	DRW-2	DRW-3	
			N315034 /N315040	N315041 /N315035	N315042 /N315036	/
			/	/	/	/
			CATEGORY 4 PARAMETERS			
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	
			CATEGORY 5 PARAMETERS			
	GROSS A RADIOACTIVITY	PC I/L	*	*	*	
	GROSS B RADIOACTIVITY	PC I/L	*	*	*	
	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA APR 8, 1984
SEEPS

		DRSP-1	HRSP-1	HRSP-2	HRSP-3
		N314940 /N314927	N314941 /N314928	N314942 /N314929	N314930 /N314943
		/	/	15991 /	/
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	54.0	24.0	54.0	28.0
BOD	MG/L	3.0	4.0	6.0	7.0
COD	MG/L	<4.0	18.0	62.0	135.0
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	1.5	3.4	68.5	144.0
BORON	MG/L	.11	.2	.17	.32
CHLORIDE	MG/L	13.9	32.4	128.0	138.0
FLUORIDE	MG/L	.42	.2	.31	.25
IRON	MG/L	.78	3.31	.41	.38
NITRATE	MG/L	1.08	1.17	.96	2.22
PHOSPHATE	MG/L	.02	.04	.07	<.06
SULFATE	MG/L	63.06	48.23	35.87	17.33
SODIUM	MG/L	10.2	25.6	106.0	162.0
POTASSIUM	MG/L	4.14	4.79	13.2	40.0
BARIUM (GF)	MG/L	.06	.184	.189	.256
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	7.5	2.52	1.19	.45
SULFIDE AS S	MG/L	<.1	<1.0	<1.0	1.2
TIN	MG/L	<.76	<.76	<.76	<.76
CATEGORY 3 PARAMETERS					
OIL AND GREASE	MG/L	3.0	2.0	3.0	3.0
SURFACTANTS (MBAS)	MG/L	.35	.151	.647	.278
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
ETHANOL	MG/L	<.1	<.1	<.1	<.1
BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0

000401

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

000402

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA APR 8, 1984
SEEPS

		DRSP-1	HRSP-1	HRSP-2	HRSP-3
		N314940 /N314927	N314941 /N314928	N314942 /N314929	N314930 /N314943
		/	/	15991 /	/
	CATEGORY 3 PARAMETERS				
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<1.0
	DITHANE	MG/L		<.02	<.02	<.02
	LETHANE	MG/L	<.001	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01	<.01
	CATEGORY 4 PARAMETERS					
T1	ANTIMONY	MG/L	<.17	<.17	<.17	<.17
T2	ARSENIC	MG/L	.004	.005	.005	.004
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM	MG/L	<.0005	<.0005	.0006	.0013
T5	CHROMIUM	MG/L	.004	.004	.007	.003
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD	MG/L	<.002	<.002	.002	<.002
T8	MERCURY	MG/L	<.0002	<.0004	.0002	<.0002
T9	NICKEL	MG/L	<.1	.01	<.1	.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.04	.18	.11	.15
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	.008	.004	.01	.024
	CATEGORY 4 PARAMETERS					
V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0	<100.0
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0	<100.0
V3	BENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

APR 8, 1984

000403

			DRSP-1	HRSP-1	HRSP-2	HRSP-3
			N314940 /N314927	N314941 /N314928	N314942 /N314929	N314930 /N314943
			/	/	15991 /	/
			CATEGORY 4 PARAMETERS			
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
			CATEGORY 4 PARAMETERS			
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L		<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	<10.0

9

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

APR 8, 1984

000404

			DRSP-1	HRSP-1	HRSP-2	HRSP-3
			N314940 /N314927	N314941 /N314928	N314942 /N314929	N314930 /N314943
			/	/	15991 /	/

CATEGORY 4 PARAMETERS

B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0

CATEGORY 4 PARAMETERS

A1	CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

APR 8, 1984

			DRSP-1	HRSP-1	HRSP-2	HRSP-3
			N314940 /N314927	N314941 /N314928	N314942 /N314929	N314930 /N314943
			/	/	15991 /	/
	CATEGORY 4 PARAMETERS					
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
	CATEGORY 4 PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0

000405

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

APR 8, 1984

000406

			DRSP-1	HRSP-1	HRSP-2	HRSP-3
			N314940 /N314927	N314941 /N314928	N314942 /N314929	N314930 /N314943
			/	/	15991 /	/
			CATEGORY 4 PARAMETERS			
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
			CATEGORY 5 PARAMETERS			
	TOTAL RADIUM	PC I/L	<1.0	<1.0	3.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS

APR 8, 1984

		HRSD-1	HRSD-2	HRSD-3	
		N315174 /	N315175 /	N315176 /	/
		/	/	/	/
CATEGORY 1 PARAMETERS					
SPECIFIC CONDUCTANCE	UMHOS				
PH	SU	5.8	6.8	6.1	
TOTAL ORGANIC CARBON	MG/KG				
CATEGORY 2 PARAMETERS					
BARIUM	MG/KG	65.0	8.75	64.5	
SULFIDE	MG/KG	62.0	450.0	83.0	
BORON	MG/KG	.68	.92	.84	
CHLORIDE	MG/KG	37.6	41.9	51.5	
FLUORIDE	MG/KG	.749	1.94	1.52	
IRON	MG/KG	2981.0	15700.0	3563.0	
FORMALDEHYDE	MG/KG	1.13	5.7	<.33	
POTASSIUM	MG/KG	189.0	755.0	180.0	
MANGANESE	MG/KG	413.0	425.0	106.0	
SODIUM	MG/KG	183.0	71.3	127.0	
NITROGEN, AMMONIA	MG/KG	6.12	57.4	22.5	
NITRATE AS N	MG/KG	5.38	4.57	4.87	
TIN	MG/KG	<38.0	<38.0	<38.0	
SULFATE AS SO4	MG/KG	296.33	242.28	195.96	
PHOSPHATE, TOTAL AS P	MG/KG	206.0	157.0	406.0	

000407

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS

APR 8, 1984

000438

		HRSD-1	HRSD-2	HRSD-3	
		N315174 /	N315175 /	N315176 /	/
		/	/	/	/

CATEGORY 3 PARAMETERS

SURFACTANTS	MG/KG	.02	.025	.022
OIL & GREASE	MG/KG	.75	1.18	.36
METHYL ETHYL KETONE	MG/KG	<1.0	<.1	<.1
ISOBUTYL ALCOHOL	MG/KG	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/KG	<.1	<.1	<.1
ISOPROPYL ALCOHOL	MG/KG	<.1	<.1	<.1
ETHANOL	MG/KG	<.1	<.1	<.1
BUTYL METHACRYLATE	MG/KG	<10.0	<10.0	<10.0
METHYL METHACRYLATE	MG/KG	<.1	<.1	<.1
ETHYL ACRYLATE	MG/KG	<.1	<.1	1.1
BUTYL ACRYLATE	MG/KG	<.1	<.1	<.1
STYRENE	MG/KG	<.1	<.1	<.1
ACETONE	MG/KG	<.1	<.1	<.1
ETHYL ACETATE	MG/KG	<.1	<.1	<.1
CELLUSOLVE ACETATE	MG/KG	<.1	<.1	<.1
BUTYL CELLUSOLVE	MG/KG	<.1	<.1	<.1
DITHANE	MG/KG			
LETHANE	MG/KG	<.01	<.01	<.01
KARATHANE	MG/KG	<.01	<.01	<.01
DNCP	MG/KG	<.01	<.01	<.01

CATEGORY 4 PARAMETERS

T16	SILVER	MG/KG	<1.0	<1.0	<1.0
T17	ARSENIC	MG/KG	.85	8.0	1.55
T18	BERYLLIUM	MG/KG	<.5	<.5	<.5
T19	CADMIUM	MG/KG	<.5	<.5	.5
T20	CYANIDE	MG/KG	<.071	<.074	<.069
T21	CHROMIUM	MG/KG	<2.0	4.36	6.18
T22	COPPER	MG/KG	8.15	9.09	9.09
T23	MERCURY	MG/KG	<.04	.02	<.07
T24	LEAD	MG/KG	39.5	2990.0	10.5
T25	PHENOLS	MG/KG	.672	.904	.748
T26	ANTIMONY	MG/KG	<8.5	<8.5	<8.5
T27	SELENIUM	MG/KG	<.05	<.05	<.05
T28	THALLIUM	MG/KG	<15.0	<15.0	<15.0
T29	ZINC	MG/KG	101.0	114.0	96.0

RUHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS

APR 8, 1984

000409

			HRSD-1	HRSD-2	HRSD-3	
			N315174 /	N315175 /	N315176 /	/
			/	/	/	/
	CATEGORY 4 PARAMETERS					
T30	NICKEL	MG/KG	6.76	11.6	9.97	
	CATEGORY 4 PARAMETERS					
V101	CHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	
V102	VINYL CHLORIDE	UG/KG	<10.0	<10.0	<10.0	
V103	CHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	
V104	BROMOMETHANE	UG/KG	<10.0	<10.0	<10.0	
V105	ACROLEIN	UG/KG	<100.0	<100.0	<100.0	
V106	ACRYLONITRILE	UG/KG	<100.0	<100.0	<100.0	
V107	METHYLENE CHLORIDE	UG/KG	<10.0	15.0	<10.0	
V108	TRICHLOROFLUOROMETHANE	UG/KG	<10.0	<10.0	<10.0	
V109	1,1-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	
V110	1,1-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	
V111	1,2-TRANS-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	
V112	CHLOROFORM	UG/KG	<10.0	<10.0	<10.0	
V113	1,2-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	
V114	1,1,1-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	
V115	CARBON TETRACHLORIDE	UG/KG	<10.0	<10.0	<10.0	
V116	BROMODICHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	
V117	1,2-DICHLOROPROPANE	UG/KG	<10.0	<10.0	<10.0	
V118	TRANS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	
V119	TRICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	
V120	BENZENE	UG/KG	<10.0	<10.0	<10.0	
V121	CIS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	
V122	1,1,2-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	
V123	DIBROMOCHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	
V124	BROMOFORM	UG/KG	<10.0	<10.0	<10.0	
V125	TETRACHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	
V126	1,1,2,2-TETRACHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	
V127	TOLUENE	UG/KG	<10.0	<10.0	<10.0	
V128	CHLOROBENZENE	UG/KG	<10.0	<10.0	<10.0	
V129	ETHYLBENZENE	UG/KG	<10.0	<10.0	<10.0	
V130	2-CHLOROETHYL VINYL ETHER	UG/KG	<10.0	<10.0	<10.0	
	CATEGORY 4 PARAMETERS					
B101	N-NITROSODIMETHYLAMINE	UG/KG	<200.0	<200.0	<200.0	

000410

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA APR 8, 1984
SEDIMENTS

			HRSD-1	HRSD-2	HRSD-3	
			N315174 /	N315175 /	N315176 /	/
			/	/	/	/

CATEGORY 4 PARAMETERS

B102	BIS (2-CHLOROETHYL) ETHER	UG/KG	<200.0	<200.0	<200.0
B103	1,3-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0
B104	1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0
B105	1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0
B106	BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0	<200.0
B107	HEXACHLOROETHANE	UG/KG	<200.0	<200.0	<200.0
B108	N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0	<200.0
B109	NITROBENZENE	UG/KG	<200.0	<200.0	<200.0
B110	ISOPHORONE	UG/KG	<200.0	<200.0	<200.0
B111	BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0	<200.0
B112	1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0
B113	NAPHTHALENE	UG/KG	<200.0	<200.0	<200.0
B114	HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0	<200.0
B115	HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0	<200.0
B116	2-CHORONAPHTHALENE	UG/KG	<200.0	<200.0	<200.0
B117	DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0
B118	ACENAPHTHYLENE	UG/KG	<220.0	<200.0	<200.0
B119	2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0
B120	ACENAPHTHENE	UG/KG	<200.0	<200.0	<200.0
B121	2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0
B122	DIETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0
B123	FLUORENE	UG/KG	<200.0	<200.0	<200.0
B124	4-CHOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0
B125	N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0	<200.0
B126	1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0	<200.0
B127	4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0
B128	HEXACHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0
B129	PHENANTHRENE	UG/KG	1600.0	<200.0	<200.0
B130	ANTHRACENE	UG/KG	310.0	<200.0	<200.0
B131	DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0
B132	FLUORANTHENE	UG/KG	2200.0	<200.0	<200.0
B133	BENZIDINE	UG/KG	<200.0	<200.0	<200.0
B134	PYRENE	UG/KG	1700.0	<200.0	<200.0
B135	BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0
B136	BENZO (A) ANTHRACENE	UG/KG	1100.0	<200.0	<200.0
B137	3,3'-DICHLOROVENZIDINE	UG/KG	<200.0	<200.0	<200.0
B138	CHRYSENE	UG/KG	1100.0	<200.0	<200.0
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0	<200.0
B140	DI-N-OCTYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0
B141	BENZO(B)FLOURANTHENE	UG/KG	860.0	<200.0	<200.0
B142	BENZO (K) FLUORANTHENE	UG/KG	940.0	<200.0	<200.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS

APR 8, 1984

			HRSD-1	HRSD-2	HRSD-3	
			N315174 /	N315175 /	N315176 /	/
			/	/	/	/
	CATEGORY 4 PARAMETERS					
B143	BENZO (A) PYRENE	UG/KG	1100.0	<500.0	<500.0	
B144	INDENO (1,2,3-CD) PYRENE	UG/KG	<500.0	<500.0	<500.0	
B145	DIBENZO (A,H) ANTHRACENE	UG/KG	<500.0	<500.0	<500.0	
B146	BENZO (GHI) PERYLENE	UG/KG	<500.0	<500.0	<500.0	
	CATEGORY 4 PARAMETERS					
A101	PHENOL	UG/KG	<500.0	<500.0	<500.0	
A102	2-CHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	
A103	2-NITROPHENOL	UG/KG	<500.0	<500.0	<500.0	
A104	2,4-DIMETHYLPHENOL	UG/KG	<500.0	<500.0	<500.0	
A105	2,4-DICHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	
A106	P-CHLORO-M-CRESOL	UG/KG	<500.0	<500.0	<500.0	
A107	2,4,6-TRICHLORUPHENOL	UG/KG	<500.0	<500.0	<500.0	
A108	2,4-DINITROPHENOL	UG/KG	<5000.0	<5000.0	<5000.0	
A109	4-NITROPHENOL	UG/KG	<500.0	620.0	<500.0	
A110	4,6-DINITRO-O-CRESOL	UG/KG	<5000.0	<5000.0	<5000.0	
A111	PENTACHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	
	CATEGORY 4 PARAMETERS					
P101	ALDRIN	UG/KG	<200.0	<200.0	<200.0	
P102	ALPHA-BHC	UG/KG	<200.0	<200.0	<200.0	
P103	BETA-BHC	UG/KG	<200.0	<200.0	<200.0	
P104	GAMMA-BHC	UG/KG	<200.0	<200.0	<200.0	
P105	DELTA-BHC	UG/KG	<200.0	<200.0	<200.0	
P106	CHLORDANE	UG/KG	<200.0	<200.0	<200.0	
P107	4,4'-DDT	UG/KG	<200.0	<200.0	<200.0	
P108	4,4'-DDE	UG/KG	<200.0	<200.0	<200.0	
P109	4,4'-DDD	UG/KG	<200.0	<200.0	<200.0	
P110	DIELDRIN	UG/KG	<200.0	<200.0	<200.0	
P111	ALPHA-ENDOSULFAN	UG/KG	<200.0	<200.0	<200.0	
P112	BETA-ENDOSULFAN	UG/KG	<200.0	<200.0	<200.0	
P113	ENDOSULFAN SULFATE	UG/KG	<200.0	<200.0	<200.0	
P114	ENDRIN	UG/KG	<200.0	<200.0	<200.0	

00041

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA APR 8, 1984
SEDIMENTS

000412

			HRSD-1	HRSD-2	HRSD-3	
			N315174 /	N315175 /	N315176 /	/
			/	/	/	/

CATEGORY 4 PARAMETERS

P115	ENDRIN ALDEHYDE	UG/KG	<200.0	<200.0	
P116	HEPTACHLOR	UG/KG	<200.0	<200.0	<200.0
P117	HEPTACHLOR EPOXIDE	UG/KG	<200.0	<200.0	<200.0
P118	PCB-1242	UG/KG	<200.0	<200.0	<200.0
P119	PCB-1254	UG/KG	<200.0	<200.0	<200.0
P120	PCB-1221	UG/KG	<200.0	<200.0	<200.0
P121	PCB-1232	UG/KG	<200.0	<200.0	<200.0
P122	PCB-1248	UG/KG	<200.0	<200.0	<200.0
P123	PCB-1260	UG/KG	<200.0	<200.0	<200.0
P124	PCB-1016	UG/KG	<200.0	<200.0	<200.0
P125	TOXAPHENE	UG/KG	<200.0	<200.0	<200.0
P126	2,4-D	UG/KG	<.2	<.2	<.2
P127	2,4,5-TP	UG/KG	<.1	<.1	<.1

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*	*	*
GROSS B RADIOACTIVITY	PC I/L	*	*	*
TOTAL RADIUM	PC I/L	1.5	3.0	1.2

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

		HRW-1	HRW-2	HRW-3	HRW-4
		/	N315044 /N315038	N314944 /N314931	N315039 /N315045
		/	/	/	/
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	11.0	15.0	19.0	23.0
BOD	MG/L	<3.0	<3.0	<3.0	8.0
COD	MG/L	39.0	8.0	30.0	41.0
SPECIFIC CONDUCTANCE	UMHOS	254.0	268.0	332.0	359.0
PH	SU	6.0	6.4	6.5	6.3
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	.19	.19	2.75	<.05
BORON	MG/L	.09	.09	.17	.13
CHLORIDE	MG/L	24.3	26.1	29.3	34.7
FLUORIDE	MG/L	.116	.116	.2	.126
IRON	MG/L	.31	.34	.48	.74
NITRATE	MG/L	1.99	.97	1.51	.69
PHOSPHATE	MG/L	.02	.02	.02	.03
SULFATE	MG/L	52.59	61.0	100.14	30.17
SODIUM	MG/L	20.4	17.6	25.3	42.8
POTASSIUM	MG/L	2.85	5.44	5.25	5.81
BARIUM (GF)	MG/L	.076	.041	.074	.105
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	.05	.83	.55	.53
SULFIDE AS S	MG/L	1.1	1.1	1.0	1.2
TIN	MG/L	<.76	<.76	<.76	<.76
CATEGORY 3 PARAMETERS					
OIL AND GREASE	MG/L	4.0	3.0	<1.0	3.0
SURFACTANTS (MBAS)	MG/L	.469	.026	<.012	.1
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

000413

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

19

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

000414

			HRW-1	HRW-2	HRW-3	HRW-4
			/	N315044 /N315038	N314944 /N314931	N315039 /N315045
			/	/	/	/
	CATEGORY 3 PARAMETERS					
	ETHANOL	MG/L	<.1	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<.1	<10.0	<.1
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	.1	.1	.1	.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
	LETHANE	MG/L	.001	.001	.001	.001
	KARATHANE	MG/L	<.01	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01	<.01
	CATEGORY 4 PARAMETERS					
T1	ANTIMONY	MG/L	<.17	<.17	<.17	<.15
T2	ARSENIC	MG/L	.006	.006	.004	.006
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM	MG/L	.0017	.0007	.0007	.0024
T5	CHROMIUM	MG/L	.005	.003	<.002	.003
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD	MG/L	<.002	<.002	<.002	<.002
T8	MERCURY	MG/L	<.0004	<.0004	<.0002	<.0004
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.12	.11	.08	.75
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	.005	.005	.008	.02
	CATEGORY 4 PARAMETERS					
V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0	<100.0
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0	<100.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			HRW-1	HRW-2	HRW-3	HRW-4
			/	N315044 /N315038	N314944 /N314931	N315039 /N315045
			/	/	/	/
	CATEGORY 4 PARAMETERS					
V3	BENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<10.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPHOPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	17.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
	CATEGORY 4 PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0

000415

12

000416

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			HRW-1	HRW-2	HRW-3	HRW-4
			/	N315044 /N315038	N314944 /N314931	N315039 /N315045
			/	/	/	/
	CATEGORY 4 PARAMETERS					
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L				
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPHOPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PHOPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			HRW-1	HRW-2	HRW-3	HRW-4
			/	N315044 /N315038	N314944 /N314931	N315039 /N315045
			/	/	/	/
			CATEGORY 4 PARAMETERS			
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
			CATEGORY 4 PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
			CATEGORY 4 PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0

000417

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

000418

			HRW-1	HRW-2	HRW-3	HRW-4
			/	N315044 /N315038	N314944 /N314931	N315039 /N315045
			/	/	/	/
	CATEGORY 4 PARAMETERS					
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS					
	GROSS A RADIOACTIVITY	PC I/L	*	*	*	*
	GROSS B RADIOACTIVITY	PC I/L	*	*	*	*
	TOTAL RADIUM	PC I/L	1.0	<2.0	<2.0	<1.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

		HRW-5	HRW-6	HRW-7	
		N314945 /N314932	N314946 /N314933	N314947 /N314934	/
		/	/	/	/
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	19.0	36.0	45.0	
BOD	MG/L	29.0	<3.0	<3.0	
COD	MG/L	98.0	26.0	66.0	
SPECIFIC CONDUCTANCE	UMHOS	1890.0	354.0	799.0	
PH	SU	6.6	6.7	8.1	
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	3.8	3.6	7.0	
BORON	MG/L	.19	.17	.08	
CHLORIDE	MG/L	95.0	33.3	103.0	
FLUORIDE	MG/L	.42	.2	.19	
IRON	MG/L	17.7	.81	.54	
NITRATE	MG/L	.3	1.57	1.38	
PHOSPHATE	MG/L	<.01	.02	1.7	
SULFATE	MG/L	501.0	49.26	113.0	
SODIUM	MG/L	205.0	28.6	105.0	
POTASSIUM	MG/L	13.9	5.81	5.07	
BARIUM (GF)	MG/L	.204	.07	.054	
FORMALDEHYDE	MG/L	*	*	*	
MANGANESE	MG/L	3.31	.64	.74	
SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	
TIN	MG/L	<.76	<.76	<.76	
CATEGORY 3 PARAMETERS					
OIL AND GREASE	MG/L	2.0	3.0	2.0	
SURFACTANTS (MBAS)	MG/L	.107	<.034	.1	
METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	
ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	
N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	
ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	

000419

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

000120

			HRW-5	HRW-6	HRW-7	
			N314945 /N314932	N314946 /N314933	N314947 /N314934	/
			/	/	/	/

CATEGORY 3 PARAMETERS

	ETHANOL	MG/L	<.1	<.1	<.1
	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
	STYRENE	MG/L	<.1	<.1	<.1
	ACETONE	MG/L	<.1	<.1	<.1
	ETHYL ACETATE	MG/L	<.1	<.1	<.1
	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
	DITHANE	MG/L	<.02	<.02	
	LETHANE	MG/L	<.001	<.001	<.001
	KARATHANE	MG/L	<.01	<.01	<.01
	DNCP	MG/L	<.01	<.01	<.01

CATEGORY 4 PARAMETERS

T1	ANTIMONY	MG/L	<.17	<.17	<.17
T2	ARSENIC	MG/L	.004	.005	.004
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM	MG/L	.0005	<.0005	.0006
T5	CHROMIUM	MG/L	.018	<.002	<.002
T6	COPPER	MG/L	<.03	<.03	<.03
T7	LEAD	MG/L	<.002	<.002	<.002
T8	MERCURY	MG/L	<.0002	.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	.001	.001
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	<.01	.08	.02
T14	CYANIDE	MG/L	<.005	<.005	.01
T15	PHENOLS	MG/L	.006	.008	.007

CATEGORY 4 PARAMETERS

V1	ACROLEIN	UG/L	<100.0	<100.0	<100.0
V2	ACRYLONITRILE	UG/L	<100.0	<100.0	<100.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			HRW-5	HRW-6	HRW-7	
			N314945 /N314932	N314946 /N314933	N314947 /N314934	/
			/	/	/	/

CATEGORY 4 PARAMETERS

V3	BENZENE	UG/L	<10.0	<10.0	<10.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
V5	BROMOFORM	UG/L	<10.0	<10.0	<10.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<10.0	<10.0
V7	CHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
V8	CHLORODIBROMOMETHANE	UG/L	<10.0	<10.0	<10.0
V9	CHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	<10.0	<10.0
V11	CHLOROFORM	UG/L	<10.0	<10.0	<10.0
V12	DICHLOROBROMOMETHANE	UG/L	<10.0	<10.0	<10.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<10.0	<10.0
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<10.0	<10.0	<10.0
V20	ETHYLBENZENE	UG/L	<10.0	<10.0	<10.0
V21	BROMOMETHANE	UG/L	<10.0	<10.0	<10.0
V22	CHLOROMETHANE	UG/L	<10.0	<10.0	<10.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<10.0	<10.0
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V25	TETRACHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V26	TOLUENE	UG/L	<10.0	<10.0	<10.0
V27	1,2-TRANS-DICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V29	1,1,2-TRICHLOROETHANE	UG/L	<10.0	<10.0	<10.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<10.0	<10.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<10.0	<10.0
V32	VINYL CHLORIDE	UG/L	<10.0	<10.0	<10.0
V33	DIBROMOCHLOROMETHANE	UG/L	<10.0	<10.0	<10.0

000421

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

000422

			HRW-5	HRW-6	HRW-7	
			N314945 /N314932	N314946 /N314933	N314947 /N314934	/
			/	/	/	/
	CATEGORY 4 PARAMETERS					
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	
B7	3,4-BENZOFLUORANTHENE	UG/L				
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0	<10.0	<10.0	
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	21.0	
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B23	3,3'-DICHLOROVENZIDINE	UG/L	<10.0	<10.0	<10.0	
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	11.0	
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			HRW-5	HRW-6	HRW-7	
			N314945 /N314932	N314946 /N314933	N314947 /N314934	/
			/	/	/	/
	CATEGORY 4 PARAMETERS					
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	
	CATEGORY 4 PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	
	CATEGORY 4 PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	

000423

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

000424

			HRW-5	HRW-6	HRW-7	
			N314945 /N314932	N314946 /N314933	N314947 /N314934	/
			/	/	/	/

CATEGORY 4 PARAMETERS

P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	

CATEGORY 5 PARAMETERS

	GROSS A RADIOACTIVITY	PC I/L	*	*	*
	GROSS B RADIOACTIVITY	PC I/L	*	*	*
	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

		WBHRC-1	WBHRC-2	WBHRC-3	WBHRC-4
		N402677 /N402675	N402671 /N402655	N402672 /N402666	N402673 /N402667
		/	/	/	/
CATEGORY 0 PARAMETERS					
1,1-DICHLOROETHENE	UG/L	<.1	.1	.1	<.1
TRANS-1,2-DICHLOROETHENE	UG/L	<.1	.1	.1	<.1
TOTAL COLIFORM PER 100 ML NO.		<.3			
TETRACHLOROETHENE	UG/L	<.1	.1	<.1	<.1
TRICHLOROETHENE	UG/L	<.1	15.3	11.3	15.4
BROMODICHLOROMETHANE	UG/L	<.1	.1	.1	<.1
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	43.0			
BOD	MG/L	6.0			
COD	MG/L	120.0	37.0	115.0	86.0
SPECIFIC CONDUCTANCE	UMHOS	1480.0	246.0	230.0	1540.0
PH	SU	6.8	6.2	5.5	5.7
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	59.5	1.75	<.05	.86
CHLORIDE	MG/L	29.0	27.3	25.2	379.0
FLUORIDE	MG/L	.18			
IRON	MG/L	1.35	.48	.2	18.6
NITRATE	MG/L	<.05	1.49	1.75	<.05
SULFATE	MG/L	25.3	33.1	39.7	51.9
SODIUM	MG/L	159.0	22.1	15.6	209.0
POTASSIUM	MG/L	11.8			
BARIUM (DF)	MG/L	.233			
FORMALDEHYDE	MG/L	*	*	*	*
MANGANESE	MG/L	5.07	.04	<.02	.76
SULFIDE AS S	MG/L	<.17			
TIN	MG/L	<1.0			
BORON	MG/L	.11			
PHOSPHATE, TOTAL AS P	MG/L	.18			

000425

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST.

13

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA APR 8, 1984
SURFACE WATER

000426

		WBHRC-1	WBHRC-2	WBHRC-3	WBHRC-4
		N402677 /N402675	N402671 /N402655	N402672 /N402666	N402673 /N402667
		/	/	/	/
	CATEGORY 3 PARAMETERS				
	OIL AND GREASE	MG/L	2.0		
	SURFACTANTS (MBAS)	MG/L	.84	.071	.223	.219
	METHYL ETHYL KETONE	MG/L	<.1			
	ISOBUTYL ALCOHOL	MG/L	<.1			
	N-BUTYL ALCOHOL	MG/L	<.1			
	ISOPROPYL ALCOHOL	MG/L	<.1			
	ETHANOL	MG/L	<.1			
	BUTYL METHACRYLATE	MG/L	<.1			
	METHYL METHACRYLATE	MG/L	<10.0			
	ETHYL ACRYLATE	MG/L	<.1			
	BUTYL ACRYLATE	MG/L	<.1			
	STYRENE	MG/L	<.1			
	ACETONE	MG/L	<.1			
	ETHYL ACETATE	MG/L	<.1			
	BUTYL CELLOSOLVE	MG/L	<.1			
	DITHANE	MG/L	<.02			
	LETHANE	MG/L	<.001			
	KARATHANE	MG/L	<.01			
	DNCP	MG/L	<.01			
	CATEGORY 4 PARAMETERS				
T1	ANTIMONY	MG/L	<.001			
T2	ARSENIC	MG/L	.009			
T3	BERYLLIUM	MG/L	<.01			
T4	CADMIUM	MG/L	<.01			
T5	CHROMIUM	MG/L	<.02			
T6	COPPER	MG/L	<.03			
T7	LEAD	MG/L	.003			
T8	MERCURY	MG/L	<.0002			
T9	NICKEL	MG/L	.13			
T10	SELENIUM	MG/L	<1.0			
T11	SILVER	MG/L	<.02			
T13	ZINC	MG/L	.17			
T14	CYANIDE	MG/L	<.005			
T15	PHENOLS	MG/L	.032			

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APRIL 8, 1984

			WBHRC-1	WBHRC-2	WBHRC-3	WBHRC-4
			N402677 /N402675	N402671 /N402655	N402672 /N402666	N402673 /N402667
			/	/	/	/
	CATEGORY 4 PARAMETERS					
V3	BENZENE	UG/L	31.2	<.1	<.1	<.1
V5	BROMOFORM	UG/L	<.1	<.1	<.1	<.1
V6	CARBON TETRACHLORIDE	UG/L	<.1	<.1	<.1	<.1
V7	CHLOROBENZENE	UG/L	<.1	<.1	<.1	<.1
V9	CHLOROETHANE	UG/L	<.1	<.1	<.1	<.1
V11	CHLOROFORM	UG/L	<.1	<.1	<.1	<.1
V14	1,1-DICHLOROETHANE	UG/L	<.1	<.1	<.1	<.1
V15	1,2-DICHLOROETHANE	UG/L	<.1	<.1	2.1	<.1
V17	1,2-DICHLOROPROPANE	UG/L	<.1	<.1	<.1	<.1
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<.1	<.1	<.1	<.1
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<.1	<.1	<.1	<.1
V20	ETHYLBENZENE	UG/L	374.0	<.1	<.1	<.1
V21	BROMOMETHANE	UG/L	<.1	<.1	<.1	<.1
V22	CHLOROMETHANE	UG/L	<.1	<.1	<.1	<.1
V23	METHYLENE CHLORIDE	UG/L	5.9	<.1	<.1	<.1
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<.1	<.1	<.1	<.1
V26	TOLUENE	UG/L	1.3	<.1	<.1	<.1
V28	1,1,1-TRICHLOROETHANE	UG/L	.9	1.8	2.1	1.3
V29	1,1,2-TRICHLOROETHANE	UG/L	<.1	<.1	<.1	<.1
V31	TRICHLOROFLUOROMETHANE	UG/L	<.1	<.1	<.1	<.1
V32	VINYL CHLORIDE	UG/L	<.1	<.1	<.1	<.1
V33	DIBROMOCHLOROMETHANE	UG/L	<.1	<.1	<.1	<.1

000427

000428

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA APR 8, 1984
SURFACE WATER

		WBHRC-1	WBHRC-2	WBHRC-3	WBHRC-4
		N402677 /N402675	N402671 /N402655	N402672 /N402666	N402673 /N402667
		/	/	/	/
	CATEGORY 4 PARAMETERS				
B1	ACENAPHTHENE	UG/L <10.0			
B2	ACENAPHTHYLENE	UG/L <10.0			
B3	ANTHRACENE	UG/L <10.0			
B4	BENZIDINE	UG/L <10.0			
B5	BENZO (A) ANTHRACENE	UG/L <10.0			
B6	BENZO (A) PYRENE	UG/L <10.0			
B8	BENZO (GHI) PERYLENE	UG/L <25.0			
B9	BENZO (K) FLUORANTHENE	UG/L <10.0			
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L <10.0			
B11	BIS (2-CHLOROETHYL) ETHER	UG/L <10.0			
B12	BIS(2-CHLORDISOPROPYL) ETHER	UG/L <10.0			
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L <10.0			
B14	4-BROMOPHENYL PHENYL ETHER	UG/L <10.0			
B15	BUTYL BENZYL PHTHALATE	UG/L <10.0			
B16	2-CHORONAPHTHALENE	UG/L <10.0			
B17	4-CHOROPHENYL PHENYL ETHER	UG/L <10.0			
B18	CHRYSENE	UG/L <10.0			
B19	DIBENZO (A,H) ANTHRACENE	UG/L <25.0			
B20	1,2-DICHLOROBENZENE	UG/L <10.0	.1	<.1	<.1
B21	1,3-DICHLOROBENZENE	UG/L <10.0	.1	<.1	<.1
B22	1,4-DICHLOROBENZENE	UG/L <10.0	.1	<.1	<.1
B23	3,3'-DICHLOROVENZIDINE	UG/L <10.0			
B24	DIETHYL PHTHALATE	UG/L <10.0			
B25	DIMETHYL PHTHALATE	UG/L <10.0			
B26	DI-N-BUTYL PHTHALATE	UG/L <10.0			

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

		WBHRC-1	WBHRC-2	WBHRC-3	WBHRC-4
		N402677 /N402675	N402671 /N402655	N402672 /N402666	N402673 /N402667
		/	/	/	/
	CATEGORY 4 PARAMETERS				
B27	2,4-DINITROTOLUENE	UG/L	<10.0		
B28	2,6-DINITROTOLUENE	UG/L	<10.0		
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0		
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0		
B31	FLUORANTHENE	UG/L	<10.0		
B32	FLUORENE	UG/L	<10.0		
B33	HEXACHLOROBENZENE	UG/L	<10.0		
B34	HEXACHLOROBUTADIENE	UG/L	<10.0		
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0		
B36	HEXACHLOROETHANE	UG/L	<10.0		
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0		
B38	ISOPHORONE	UG/L	<10.0		
B39	NAPHTHALENE	UG/L	<10.0		
B40	NITROBENZENE	UG/L	<10.0		
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0		
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0		
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0		
B44	PHENANTHRENE	UG/L	<10.0		
B45	PYRENE	UG/L	<10.0		
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0		
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0		
	CATEGORY 4 PARAMETERS				
A1	2-CHLOROPHENOL	UG/L	<25.0		
A2	2,4-DICHLOROPHENOL	UG/L	<25.0		
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0		
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0		
A5	2,4-DINITROPHENOL	UG/L	<250.0		
A6	2-NITROPHENOL	UG/L	<25.0		
A7	4-NITROPHENOL	UG/L	<25.0		
A8	P-CHLORO-M-CRESOL	UG/L	<25.0		
A9	PENTACHLOROPHENOL	UG/L	<25.0		
A10	PHENOL	UG/L	<25.0		
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0		

000429

35

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

000430

		WBHRC-1	WBHRC-2	WBHRC-3	WBHRC-4
		N402677 /N402675	N402671 /N402655	N402672 /N402666	N402673 /N402667
		/	/	/	/
	CATEGORY 4 PARAMETERS				
P1	ALDRIN	UG/L	<10.0		
P2	ALPHA-BHC	UG/L	<10.0		
P3	BETA-BHC	UG/L	<10.0		
P4	GAMMA-BHC	UG/L	<10.0		
P5	DELTA-BHC	UG/L	<10.0		
P6	CHLORDANE	UG/L	<10.0		
P7	4,4'-DDT	UG/L	<10.0		
P8	4,4'-DDE	UG/L	<10.0		
P9	4,4'-DDD	UG/L	<10.0		
P10	DIELDRIN	UG/L	<10.0		
P11	ALPHA-ENDOSULFAN	UG/L	<10.0		
P12	BETA-ENDOSULFAN	UG/L	<10.0		
P13	ENDOSULFAN SULFATE	UG/L	<10.0		
P14	ENDRIN	UG/L	<10.0		
P15	ENDRIN ALDEHYDE	UG/L	<10.0		
P16	HEPTACHLOR	UG/L	<10.0		
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0		
P18	PCB-1242	UG/L	<10.0		
P19	PCB-1254	UG/L	<10.0		
P20	PCB-1221	UG/L	<10.0		
P21	PCB-1232	UG/L	<10.0		
P23	PCB-1260	UG/L	<10.0		
P24	PCB-1016	UG/L	<10.0		
P25	TOXAPHENE	UG/L	<10.0		
P26	2,4-D	UG/L	<1.0		
P27	2,4,5-TP	UG/L	<.5		
	CATEGORY 5 PARAMETERS				
	GROSS A RADIOACTIVITY	PC I/L	*		
	GROSS B RADIOACTIVITY	PC I/L	*		
	TOTAL RADIUM	PC I/L	10.0		

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 9, 1984

WBHRC-5

N402674 /N402668	/	/	/
/	/	/	/

CATEGORY 0 PARAMETERS

1,1-DICHLOROETHENE	UG/L	<.1
TRANS-1,2-DICHLOROETHENE	UG/L	<.1
TETRACHLOROETHENE	UG/L	<.1
TRICHLOROETHENE	UG/L	<2.1
BROMODICHLOROMETHANE	UG/L	<.1

CATEGORY 1 PARAMETERS

COD	MG/L	110.0
SPECIFIC CONDUCTANCE	UMHOS	100.0
PH	SU	6.0

CATEGORY 2 PARAMETERS

NITROGEN, AMMONIA	MG/L	<.05
CHLORIDE	MG/L	11.8
IRON	MG/L	.55
NITRATE	MG/L	<.05
SULFATE	MG/L	14.2
SODIUM	MG/L	4.9
MANGANESE	MG/L	.15

CATEGORY 3 PARAMETERS

SURFACTANTS (MBAS)	MG/L	.236

CATEGORY 4 PARAMETERS

V3	BENZENE	UG/L	<.1
V5	BROMOFORM	UG/L	<.1
V6	CARBON TETRACHLORIDE	UG/L	<.1
V7	CHLOROBENZENE	UG/L	<.1
V9	CHLOROETHANE	UG/L	<.1

000431

37

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 9, 1984

WBHHC-5

000432

N402674 /N402668	/	/	/
/	/	/	/

CATEGORY 4 PARAMETERS

V11	CHLOROFORM	UG/L	<.1
V14	1,1-DICHLOROETHANE	UG/L	<.1
V15	1,2-DICHLOROETHANE	UG/L	<.1
V17	1,2-DICHLOROPROPANE	UG/L	<.1
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<.1
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<.1
V20	ETHYLBENZENE	UG/L	316.0
V21	BROMOMETHANE	UG/L	<.1
V22	CHLOROMETHANE	UG/L	<.1
V23	METHYLENE CHLORIDE	UG/L	5.4
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<.1
V26	TOLUENE	UG/L	<.1
V28	1,1,1-TRICHLOROETHANE	UG/L	<.1
V29	1,1,2-TRICHLOROETHANE	UG/L	<.1
V31	TRICHLOROFLUOROMETHANE	UG/L	<.1
V32	VINYL CHLORIDE	UG/L	<.1
V33	DIBROMOCHLOROMETHANE	UG/L	<.1

CATEGORY 4 PARAMETERS

B20	1,2-DICHLOROBENZENE	UG/L	<.1
B21	1,3-DICHLOROBENZENE	UG/L	<.1
B22	1,4-DICHLOROBENZENE	UG/L	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

		UNB-1	UNB-2	UNB-3	
		N402678 /N402676	N402669 /N402663	N402670 /N402664	/
		/	/	/	/
CATEGORY 0 PARAMETERS					
1,1-DICHLOROETHENE	UG/L	<.1	.1	.1	
TRANS-1,2-DICHLOROETHENE	UG/L	.5	2.7	.1	
TETRACHLOROETHENE	UG/L	.1	.1	.1	
TRICHLOROETHENE	UG/L	13.3	38.8	15.1	
BROMODICHLOROMETHANE	UG/L	.1	.1	.1	
CATEGORY 1 PARAMETERS					
TOTAL ORGANIC CARBON	MG/L	<1.0			
BOD	MG/L	<3.0			
COD	MG/L	4.0	36.0	47.0	
SPECIFIC CONDUCTANCE	UMHOS	481.0	210.0	212.0	
PH	SU	6.4	6.1	4.5	
CATEGORY 2 PARAMETERS					
NITROGEN, AMMONIA	MG/L	.2	<.05	.25	
CHLORIDE	MG/L	17.3	24.3	31.3	
FLUORIDE	MG/L	.08			
IRON	MG/L	2.93	.16	7.64	
NITRATE	MG/L	.36	1.31	3.15	
SULFATE	MG/L	130.0	33.1	25.3	
SODIUM	MG/L	11.7	13.8	17.1	
POTASSIUM	MG/L	4.12			
BARIUM (GF)	MG/L	.177			
FORMALDEHYDE	MG/L	*	*	*	
MANGANESE	MG/L	1.41	<.02	.35	
SULFIDE AS S	MG/L	1.1			
TIN	MG/L	<1.0			
BORON	MG/L	.11			
PHOSPHATE, TOTAL AS P	MG/L	.13			
CATEGORY 3 PARAMETERS					
OIL AND GREASE	MG/L	5.0			

000433

* TESTS FOR FORMALDEHYDE HAVE YIELDED POSITIVE RESULTS FOR EITHER FORMALDEHYDE OR FOR A VARIETY OF NATURAL ORGANIC SUBSTANCES WHICH YIELD FORMALDEHYDE UNDER THE CONDITIONS OF THE TEST

39

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

000434

	UNB-1	UNB-2	UNB-3	
	N402678 /N402676	N402669 /N402663	N402670 /N402664	/
	/	/	/	/

CATEGORY 3 PARAMETERS

	SURFACTANTS (MBAS)	MG/L	.04	.097	.176
	METHYL ETHYL KETONE	MG/L	<.1		
	ISOBUTYL ALCOHOL	MG/L	<.1		
	N-BUTYL ALCOHOL	MG/L	<.1		
	ISOPROPYL ALCOHOL	MG/L	<.1		
	ETHANOL	MG/L	<.1		
	BUTYL METHACRYLATE	MG/L	<10.0		
	METHYL METHACRYLATE	MG/L	<.1		
	ETHYL ACRYLATE	MG/L	<.1		
	BUTYL ACRYLATE	MG/L	<.1		
	STYRENE	MG/L	<.1		
	ACETONE	MG/L	<.1		
	ETHYL ACETATE	MG/L	<.1		
	CELLOSOLVE ACETATE	MG/L	<.1		
	BUTYL CELLOSOLVE	MG/L	<.1		
	DITHANE	MG/L	<.02		
	LETHANE	MG/L	<.001		
	KARATHANE	MG/L	<.01		
	DNCP	MG/L	<.01		

CATEGORY 4 PARAMETERS

T1	ANTIMONY	MG/L	.28
T2	ARSENIC	MG/L	.008
T3	BERYLLIUM	MG/L	<.01
T4	CADMIUM	MG/L	<.01
T5	CHROMIUM	MG/L	<.02
T6	COPPER	MG/L	<.03
T7	LEAD	MG/L	.003
T8	MERCURY	MG/L	<.0002
T9	NICKEL	MG/L	.1
T10	SELENIUM	MG/L	<.001
T11	SILVER	MG/L	<.02
T12	THALLIUM	MG/L	<.3
T13	ZINC	MG/L	.14
T14	CYANIDE	MG/L	<.005
T15	PHENOLS	MG/L	.003

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			UNB-1	UNB-2	UNB-3	
			N402678 /N402676	N402669 /N402663	N402670 /N402664	/
			/	/	/	/
	CATEGORY 4 PARAMETERS					
V3	BENZENE	UG/L	<.1	<.1	<.1	
V5	BROMOFORM	UG/L	<.1	<.1	<.1	
V6	CARBON TETRACHLORIDE	UG/L	<.1	<.1	<.1	
V7	CHLOROBENZENE	UG/L	<.1	<.1	<.1	
V9	CHLOROETHANE	UG/L	<.1	<.1	<.1	
V11	CHLOROFORM	UG/L	<.1	<.1	<.1	
V14	1,1-DICHLOROETHANE	UG/L	<.1	<.1	<.1	
V15	1,2-DICHLOROETHANE	UG/L	<.1	<.1	<.1	
V17	1,2-DICHLOROPROPANE	UG/L	<.1	<.1	<.1	
V18	CIS-1,3-DICHLOROPROPENE	UG/L	<.1	<.1	<.1	
V19	TRANS-1,3-DICHLOROPROPENE	UG/L	<.1	<.1	<.1	
V20	ETHYLBENZENE	UG/L	<.1	<.1	<.1	
V21	BROMOMETHANE	UG/L	<.1	<.1	<.1	
V22	CHLOROMETHANE	UG/L	<.1	<.1	<.1	
V23	METHYLENE CHLORIDE	UG/L	<.1	<.1	<.1	
V24	1,1,2,2-TETRACHLOROETHANE	UG/L	<.1	<.1	<.1	
V26	TOLUENE	UG/L	<.1	<.1	<.1	
V28	1,1,1-TRICHLOROETHANE	UG/L	1.0	1.7	1.4	
V29	1,1,2-TRICHLOROETHANE	UG/L	<.1	<.1	<.1	
V31	TRICHLOROFLUOROMETHANE	UG/L	<.1	<.1	<.1	
V32	VINYL CHLORIDE	UG/L	<.1	<.1	<.1	
V33	DIBROMOCHLOROMETHANE	UG/L	<.1	<.1	<.1	

0004435

000436

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

		UNB-1	UNB-2	UNB-3	
		N402678 /N402676	N402669 /N402663	N402670 /N402664	/
		/ /	/	/	/

CATEGORY 4 PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0		
B2	ACENAPHTHYLENE	UG/L	<10.0		
B3	ANTHRACENE	UG/L	<10.0		
B4	BENZIDINE	UG/L	<10.0		
B5	BENZO (A) ANTHRACENE	UG/L	<10.0		
B6	BENZO (A) PYRENE	UG/L	<10.0		
B8	BENZO (GHI) PERYLENE	UG/L	<25.0		
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0		
B10	BIS (2-CHLOROETHOXY) MEHTANE	UG/L	<10.0		
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0		
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0		
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0		
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0		
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0		
B16	2-CHORONAPHTHALENE	UG/L	<10.0		
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0		
B18	CHRYSENE	UG/L	<10.0		
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0		
B20	1,2-DICHLOROBENZENE	UG/L	<.1	<.1	<.1
B21	1,3-DICHLOROBENZENE	UG/L	<.1	<.1	<.1
B22	1,4-DICHLOROBENZENE	UG/L	<.1	<.1	<.1
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0		
B24	DIETHYL PHTHALATE	UG/L	<10.0		
B25	DIMETHYL PHTHALATE	UG/L	<10.0		
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0		

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

			UNB-1	UNB-2	UNB-3	
			N402678 /N402676	N402669 /N402663	N402670 /N402664	/
			/	/	/	/

CATEGORY 4 PARAMETERS

B27	2,4-DINITROTOLUENE	UG/L	<10.0			
B28	2,6-DINITROTOLUENE	UG/L	<10.0			
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0			
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0			
B31	FLUORANTHENE	UG/L	<10.0			
B32	FLUORENE	UG/L	<10.0			
B33	HEXACHLOROBENZENE	UG/L	<10.0			
B34	HEXACHLOROBUTADIENE	UG/L	<10.0			
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0			
B36	HEXACHLOROETHANE	UG/L	<10.0			
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0			
B38	ISOPHORONE	UG/L	<10.0			
B39	NAPHTHALENE	UG/L	<10.0			
B40	NITROBENZENE	UG/L	<10.0			
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0			
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0			
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0			
B44	PHENANTHRENE	UG/L	<10.0			
B45	PYRENE	UG/L	<10.0			
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0			
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0			

CATEGORY 4 PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0			
A2	2,4-DICHLOROPHENOL	UG/L	<25.0			
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0			
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0			
A5	2,4-DINITROPHENOL	UG/L	<250.0			
A6	2-NITROPHENOL	UG/L	<25.0			
A7	4-NITROPHENOL	UG/L	<25.0			
A8	P-CHLORO-M-CRESOL	UG/L	<25.0			
A9	PENTACHLOROPHENOL	UG/L	<25.0			
A10	PHENOL	UG/L	<25.0			
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0			

000437

43

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

APR 8, 1984

	UNB-1	UNB-2	UNB-3	
	N402678 /N402676	N402669 /N402663	N402670 /N402664	/
	/	/	/	/

CATEGORY 4 PARAMETERS

P1	ALDRIN	UG/L	<10.0
P2	ALPHA-BHC	UG/L	<10.0
P3	BETA-BHC	UG/L	<10.0
P4	GAMMA-BHC	UG/L	<10.0
P5	DELTA-BHC	UG/L	<10.0
P6	CHLORDANE	UG/L	<10.0
P7	4,4'-DDT	UG/L	<10.0
P8	4,4'-DDE	UG/L	<10.0
P9	4,4'-DDD	UG/L	<10.0
P10	DIELDRIN	UG/L	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0
P14	ENDRIN	UG/L	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0
P16	HEPTACHLOR	UG/L	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0
P18	PCB-1242	UG/L	<10.0
P19	PCB-1254	UG/L	<10.0
P20	PCB-1221	UG/L	<10.0
P21	PCB-1232	UG/L	<10.0
P22	PCB-1248	UG/L	<10.0
P23	PCB-1260	UG/L	<10.0
P24	PCB-1016	UG/L	<10.0
P25	TOXAPHENE	UG/L	<10.0
P26	2,4-D	UG/L	<1.0
P27	2,4,5-TP	UG/L	<.5

CATEGORY 5 PARAMETERS

GROSS A RADIOACTIVITY	PC I/L	*
GROSS B RADIOACTIVITY	PC I/L	*
TOTAL RADIUM	PC I/L	7.0

* THERE ARE INTERFERENCES IN THE RADIATION MEASUREMENTS FOR ANY SAMPLES CONTAINING HIGH CONCENTRATIONS OF DISSOLVED AND/OR SUSPENDED SOLIDS.

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BCM Eastern Inc.
Engineers, Planners and Scientists

One Plymouth Meeting • Plymouth Meeting, PA 19462 • Phone: (215) 825-3800

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June 12, 1984

Mr. Walter H. Graham, Site Investigation Officer
Site Investigation & Support Section
U. S. Environmental Protection Agency
Region III
3HW23
6th and Walnut Streets
Philadelphia, PA 19106

Subject: Rohm and Haas Company - Bristol, Pennsylvania
Report on Landfill Investigation
Laboratory Quality Assurance/Quality Control Program
BCM Project No. 00-4061-02

Dear Mr. Graham:

BCM Eastern Inc. (BCM) is pleased to provide its Laboratory Quality Assurance/Quality Control Program (QA/QC) for your review with the above-referenced report prepared by BCM and submitted to the U. S. Environmental Protection Agency (US EPA) by the Rohm & Haas Company in April, 1984. We would be happy to arrange a visit for you to our Norristown laboratory to observe our equipment and procedures, review our documentation, and meet our laboratory staff. Should you have any questions or require additional information regarding our QA/QC program, please do not hesitate to contact Frank Kernozek, BCM's Laboratory Director, or me.

Very truly yours,

Thomas C. Roginski for

Richard J. Grzywinski, P.E.
Vice President

/jmk
Enclosure
cc: George Schnabel, Rohm and Haas
Paul Rosenstock, Rohm and Haas
Frank Kernozek, BCM

BCM

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BCM EASTERN, INC.

LABORATORY QUALITY ASSURANCE/QUALITY CONTROL PROGRAM
521 WEST GERMANTOWN PIKE
NORRISTOWN, PA 19403

PREPARED BY:

FRANK J. KERNOZEK, PH.D.
LABORATORY DIRECTOR

AND

THOMAS C. ROGINSKI, PH.D.
QUALITY CONTROL MANAGER

APPROVED BY:

RICHARD J. GRZYWINSKI, P.E.
VICE PRESIDENT

BCM EASTERN, INC.
ONE PLYMOUTH MEETING
PLYMOUTH MEETING, PA 19462

000440

Revised Spring 1984

BCM

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CONTENTS

1.0 INTRODUCTION AND PURPOSE

2.0 QUALITY ASSURANCE/QUALITY CONTROL OPERATING PRACTICE SUMMARY

- 2.1 Bench Quality Control
  - 2.1.1 Titrations
  - 2.1.2 Distillations
  - 2.1.3 Potentiometrics
  - 2.1.4 Atomic Absorption
  - 2.1.5 Gas Chromatography
  - 2.1.6 Gravimetrics
  - 2.1.7 Microbiology
- 2.2 General Analytical Control
- 2.3 Laboratory Support Organization and Procedures Review

3.0 QUALITY ASSURANCE PROGRAM

4.0 CALIBRATION AND STANDARDIZATION

- 4.1 Calibration Identification
- 4.2 Calibration Standards
- 4.3 Calibration Frequency Schedule

5.0 RECORDS

6.0 ENVIRONMENTAL CONTROL

7.0 POWER

8.0 LIGHTING

9.0 ANALYTICAL DATA COLLECTION

- 9.1 Spike Sample Frequency and Procedure
- 9.2 Duplicate Sample Frequency and Procedure

10.0 CHAIN-OF-CUSTODY PROCEDURES

APPENDIX

000441

CONTENTS (Continued)

APPENDICES

APPENDIX 1 - QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES

QA/QC-1 Quality Assurance/Quality Control Procedures for Titrimetric Analyses

QA/QC-2 Quality Assurance/Quality Control Procedures for Colormetric Analyses

QA/QC-3 Quality Assurance/Quality Control Procedures for Potentiometric Analyses

QA/QC-4 Quality Assurance/Quality Control Procedures for the Determination of Metals by Atomic Absorption

QA/QC-5 Quality Assurance/Quality Control Procedures for the Determination of Organic Constituents by Gas Chromatography

QA/QC-6 Quality Assurance/Quality Control Procedures for Gravimetric Analyses

QA/QC-7 Quality Assurance/Quality Control Procedures for the Determination of Biological Contamination in Water and Wastewaters

QA/QC-8 Quality Assurance/Quality Control Procedures for the Preparation of Quality Control Charts

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LABORATORY QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

1.0 INTRODUCTION AND PURPOSE

The achievement of analytical accuracy and reliability is the single most important goal of the BCM laboratory. Analytical data are very often used for the design of treatment and control processes which must meet design efficiency targets, or are used to demonstrate compliance with environmental laws and regulations. The laboratory provides qualitative and quantitative data for these purposes. The data presented, and the methods used to attain these data, must be of such quality that subsequent evaluations based on these data may be made with confidence.

The BCM Laboratory Quality Assurance/Quality Control (QA/QC) program is structured to reflect the variability of the samples analyzed. Precision control charts are generated for duplicates in three separate concentration ranges:

a. from detection limit (DL) to ten times DL
b. from ten times DL to test's mid-range
c. from mid-range to end of test's linearity

The accuracy charts are also structured around three concentration ranges:

a. low standard (STD)
b. mid-range STD
c. high end of operating curve

Spike recovery charts encompass the linear range of the analysis. Therefore, BCM prepares seven charts per test instead of the normal three (see Figures 1 through 7 for a copy of those charts).

As a result, Quality Assurance/Quality Control at BCM is an extremely important function of the entire line of authority of the Laboratory, including the Department Director, Group Manager, Laboratory Manager, Quality Control Manager, and laboratory personnel. Each individual participates actively in the implementation of an on-going Quality Assurance/Quality Control plan.

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2.0 QUALITY ASSURANCE/QUALITY CONTROL OPERATING PRACTICE SUMMARY

2.1 Bench Quality Control

The quality of work at the bench depends on the Quality Control procedures used and the test controls employed. As a general rule, calibration curves are run for each analytical procedure each day the procedure is employed.

If a given procedure involves several different test steps, the QA/QC curves generated are for the final analytical result. For the various laboratory analyses, Quality Control procedues and controls are performed on a continuous basis. Specific Quality Assurance/Quality Control procedures and standard laboratory practice procedures are presented in the following sections. These are discussed more fully in the appendix.

2.1.1 Titrations (QA/QC 1)

When a titrimetric determination is performed, the reagents and analytical method are checked by running a known standard which is near the midpoint of the recommended working range of the test. Known and obvious interferences such as color, turbidity, pH, etc., are checked and eliminated according to EPA- or NIOSH-recommended procedures. An average of one sample in ten is either a spiked sample, duplicate/replicate, or a known.

2.1.2 Colorimetric (QA/QC 2)

Calibration curves are developed each time a test is run and checked with previous calibration curves. Spiked samples, duplicates/replicates, or knowns are analyzed after every tenth sample.

2.1.3 Potentiometric (QA/QC 3)

Each probe is calibrated on two to five standards, depending on the concentrations determined in the samples being analyzed. In all cases, the probe is calibrated bracketing the value of the sample. Spiked samples, duplicates/replicates, or knowns are run after every tenth sample or more frequently as required for samples showing potential interference.

2.1.4 Atomic Absorption (QA/QC 4)

Calibration curves are run each time a metal is run and checked with previous calibration curves. After every tenth sample, either a spiked sample, duplicate/replicate, or known is analyzed.

2.1.5 Gas Chromatography (QA/QC 5)

High and low standards are run for calibration linearity. Standards are analyzed prior to each series of analyses. Spikes are employed as needed to confirm identification; and QA/QC spiked samples, duplicates/replicates, or knowns are run after every tenth sample.

2.1.6 Gravimetrics (QA/QC 6)

Blanks, spiked samples, duplicates/replicates, or knowns are analyzed after every tenth sample. Daily analytical balance logs are kept and the zero is checked and set with each use.

2.1.7 Microbiology (QA/QC 7)

Duplicates are run on 10% of the known positive samples. These samples are analyzed in conjunction with appropriate positive and negative controls. A minimum of one sample per month of known positives is run in duplicate.

2.2 General Analytical Control

- Analytical calculations are performed by the analyst conducting the test. These calculations are checked carefully by the technical supervisor assigned to a given laboratory area. The Quality Control Manager ensures that these checks are conducted regularly.

- Twice a year, the Laboratory Manager compares current data with prior data for each class of analytical determination.

- Quality Control data are updated and incorporated into the Quality Control charts (QA/QC 8).

- Standard reference solutions from the United States Environmental Protection Agency (EPA), the Bureau of Standards, or commercial suppliers are analyzed for each class of analytical methods. These samples and results are recorded the QA/QC file maintained by the Quality Control and Laboratory Managers.

- NIOSH performance samples are analyzed once per quarter for asbestos, organic solvents, zinc, cadmium, and lead. These samples and the results are maintained in the appropriate Quality Control file.

The results of all Quality Control work are reviewed daily, by the analyst and area supervisor, for the purpose of maintaining Quality Control. Action on quality control problems is taken in a timely manner by the analyst and area supervisor.

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2.3 Laboratory Support Organization and Procedures Review

The following support functions and procedures are employed by the BCM Laboratory:

1. A responsible individual in the company has been appointed Quality Control Manager; she/he works closely with the Laboratory Manager.

2. Quality Assurance/Quality Control begins when the client is advised of the proper sample collection and preservation techniques and by ensuring transportation of the sample to the Laboratory within the recommended holding time. Quality Assurance/Quality Control is the responsibility of all those individuals who serve clients or customers.

3. Proper logging, identification, and routing of samples through the analytical process is the responsibility of the area supervisors and log-in clerk.

4. The Quality Control Manager checks the log book for service and routine checks of the analytical balances and other instrumentation.

5. A service contract is kept in force for the majority of laboratory instrumentation.

6. The area supervisors maintain files of all thermometers checked against the NBS-certified thermometer or one of equivalent accuracy.

7. All chemicals and solutions are dated and replaced before exceeding their respective shelf life.

8. Distilled/deionized water is checked for conductance, metals, TOC, NH_3, pH, and $KMNO_4$ retention time.

9. Mean and standard deviation are calculated for all Quality Assurance/Quality Control measurements on each parameter performed by the Laboratory. Quality control charts of these data are used daily to document and check the validity of each test.

10. The Laboratory Manager and the Quality Control Manager ensure that all methods and procedures used for the analysis of samples conform with accepted EPA and Standard Methods.

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11. If the Quality Assurance/Quality Control requirements of another regulatory agency must be satisfied for specific analyses, variations in the existing standard Quality Assurance/Quality Control Program are made.

12. The Quality Control and Laboratory Managers are responsible for maintaining a Methods File for all analyses conducted by this Laboratory. The file includes written details of all analytical procedures used.

13. If no EPA or Standard Methods procedure is available for an analysis, the details of the analytical method and quality control data generated are retained by the Quality Control Manager. These may be required to demonstrate the validity of the method.

3.0 QUALITY ASSURANCE PROGRAM

Samples collected for laboratory analysis are identified by their sample label. This label identifies the sample by: (a) sampling location, (b) date the sample was collected, (c) the shift on which the sample was collected, (d) time of sample collection and (e) analyses to be performed.

The sample is keyed to its sample identification number which is coded to facilitate analytical data collection and summarization.

After the sample is collected, the required sample information is written on the label and the label is affixed to the sample container. The samples are returned immediately to the Laboratory and logged in the Sample Log Book, which is a bound ledger, and the laboratory data mangement computer. A laboratory number is assigned to each sample to identify the sample and facilitate sample storage. The sample identification and laboratory number are recorded in the Sample Log Book and the data management system. The use of this laboratory number is required for internal control of sample throughput.

It should be noted that at any one time, and at a specific sampling location, multiple containers of a sample may be collected. This set of containers is identified with the same sample identification. All containers within these sets are numbered with the laboratory sample number. It is possible that a container within a set would be collected and forwarded to an outside laboratory for analysis. The outside laboratory will identify the BCM container with its own laboratory number, however, the BCM sample identification number will remain the same and be used to track this sample through the laboratory.

Immediately after log-in, all samples are transferred to 4°C cold storage facilities, where they are held until all analyses are complete and the final lab report submitted.

4.0 CALIBRATION AND STANDARDIZATION

Three or more concentration levels are usually required: a low concentration near the detection limit of the method, one or more intermediate concentrations, and a concentration near the upper limit of application of the method.

For colorimetric analyses, the initial standard curve includes a blank and a series of three to eight standards encompassing the full concentration range to be used for routine sample analyses. Subsequently, at least three standards are analyzed to verify the original standard curve. For other measurements, such as pH, conductivity, turbidity, etc., instruments are standardized according to manufacturer's instructions and sound, scientific practice.

Water blanks are run daily using laboratory water. This allows a check of apparatus and chemical quality.

Data collected from the standard(s) are recorded in a bound laboratory book along with the analytical data which is collected from the unknown samples.

EPA and NIOSH Quality Control Standards are submitted to the laboratory to augment the BCM internal Quality Assurance/Quality Control Program.

4.1 Calibration Standards

All measurements or calibrations performed by or for the Laboratory are traceable directly or indirectly, through an unbroken chain of properly conducted calibrations (supported by reports or data sheets) to the National Bureau of Standards or an equivalent source of standard solutions.

4.2 Calibration Frequency Schedule

Calibration intervals for laboratory instruments are at least those recommended by the regulatory agencies. Calibration will be more frequent where experience dictates. Instrument maintenance is performed regularly and as indicated from daily calibration results.

5.0 RECORDS

A dated record is kept for previous standardization values of each series of analyses and/or instrument. This practice provides the analyst with previous standardization records and values which will indicate to the analyst and/or his/her immediate supervisor whether a problem exists with the analytical procedure. If large deviations are encountered from the previous standardization values, the analyses are halted and the reason(s) for this deviation determined. Analytical and standarization data are entered into bound notebooks used for each analysis.

6.0 ENVIRONMENTAL CONTROL

All standards and all analytical equipment are calibrated and used in an area where environmental conditions are controlled to a degree necessary to ensure chemical analyses of a specified accuracy. All instruments are located where they will not be influenced by acoustical noise, vibration, or microwave sources.

The isolation of pressure, mass, and acceleration sensitive-equipment from vibration is particularly important. Isolation mounts or other such accessories are utilized.

The laboratory is equipped with adequate temperature and humidity controls. A temperature of 68°F to 73°F and a relative humidity of 35% to 55% normally provide a suitable environment.

7.0 POWER

For instruments to remain in calibration, the Laboratory includes voltage regulation of at least 10% (preferably five percent), minimum line transients such as those caused by other users or main line serving the Laboratory and a suitable grounding system to ensure equal potentials throughout the Laboratory. Isolation transformers are used to provide stable electrical characteristics required for individual items of equipment.

8.0 LIGHTING

Adequate lighting (no less than 100-foot-candles) is provided for work bench areas. The lighting is provided by overhead incandescent and fluorescent fixtures. Fluorescent lights are shielded to reduce electrical noise.

9.0 ANALYTICAL DATA COLLECTION

- Analytical data are recorded in the proper bound text notebook (see Figures 9A and 9B for examples) with the following information noted: (QA/QC 13)

  - Initials of analyst
  - Date
  - Calibration data
  - Test notes
  - Dilution or concentration factors, if used
  - Visual observations
  - Sample numbers

9.1 Spiked Sample Procedure

1. Spiked samples are either prepared by the addition of a portion of a concentrated known to the sample, by mixing the sample with a standard, or by the EPA Method of Standard Addition.

2. Accuracy is reported as the percent recovery of the spike (see QA/QC 8).

3. For convenience, samples selected to be spiked are chosen from a set of samples previously analyzed for the desired spike constituent. This procedure allows the unknown concentration to be measured and then the appropriate spike concentration added.

4. Spike solutions that will be used for the introduction of Quality Control samples are obtained from the U. S. Environmental Protection Agency Monitoring and Support Laboratory, the National Bureau of Standards, or commercial reference suppliers.

9.2 Duplicate/Replicate Sample Frequency Procedure

1. Duplicate/replicate samples are obtained as follows:

   - Repeat analysis on the same sample

   - Repeat analysis on a sample from a separate container collected at the same time.

2. Control limits for QA/QC chart are developed according to the procedure in QA/QC 8.

BCM

10.0 CHAIN-OF-CUSTODY PROCEDURES

The Chain-of-Custody procedures used by the BCM Laboratories are a modification of the procedures followed by EPA's National Enforcement Investigation Center in Denver, CO and the OSHA Industrial Hygiene Field Operations Manuals. The primary objective of these procedures is to create a written record which can be used to trace the possession of the sample from its collection through analysis and subsequent disposal.

Sample Collection Procedures - Collector Duties

1. All required precautions are observed for collection of samples. These precautions are specific to the analyses required on that sample, i.e., microbiological testing, priority pollutants, industrial hygiene samples.

2. Samples are handled as infrequently as possible.

3. Sample containers are tagged and labelled as specified, and kept secure (a car trunk, locked sampler, etc.) until they are to be used, while they are in use, and after they have been used. Tags or labels are filled out completely in waterproof ink.

4. A separate fixed-leaf notebook is used to record any and all field observations. The book entries are dated and signed each day by the collector.

5. After sample collection, all samples are maintained in a secure fashion until they are turned over to the sample custodian personally.

6. The Chain-of-Custody record is maintained, and accompanies the sample(s) through the remainder of their routing.

Laboratory Custody Procedures - Analyst Duties

1. When the sample(s) are received from the collector, the custodian personally transfers them to the cold box until they are assigned to an analyst.

2. The assigned analysts sign the custody sheet when the sample(s) are transferred to them.

3. The assigned analysts record all data in a separate fixed-leaf notebook dated and signed by them.

4. Only standard laboratory methods are used to analyze these samples.

5. The assigned analysts are responsible for the sample(s) when they are entrusted to them.

BCM

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6. Microbiolgical samples are discarded after a two-week period. Other samples are kept a minimum of one month. Tags, labels, notes, etc., of all samples, are returned to the sample custodian. They are kept in a file.

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APPENDIX

QUALITY ASSURANCE/QUALITY CONTROL

BCM

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QA/QC 1

QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES FOR TITRIMETRIC ANALYSES

1. Prior to starting the analysis, the analyst must check the date when the respective titration solution was last standardized.

2. If the last standardization was performed in excess of seven days, the titrant must be restandardized. This duration can be extended when reagent stability has been determined to be longer than seven days.

3. Reagent chemicals used for the standardization of titration solutions must be of National Bureau of Standards quality or equivalent.

4. Standardization procedures contained in the "EPA Methods for Chemical Analysis of Water and Wastes. Standard Methods for the Examination of Water and Wastewater, Fifteenth Edition, and NIOSH Manual of Analytical Methods, Vols. 1-7, must be consulted and used where appropriate.

5. A detailed record of reagent standardization values must be recorded in a notebook. In addition, standardization values and the date of standardization should be displayed conspicuously on the appropriate container.

6. Any volumetric glassware or apparatus that will be used in titrametric analyses should be examined for scratches and etching, broken tips and/or leaking stopcocks. In addition, if the volumetric accuracy of the article is in question, it must be disposed of or recalibrated.

7. Any standardization discrepancies or control charts indicating problems should be investigated immediately and the subject solution taken out of service.

BCM

QA/QC 2

QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES FOR COLORIMETRIC ANALYSES

1. Prior to the analysis of any sample, the appropriate sample cells should be cleaned as follows:

   - Soap and hot water wash
   - Triple rinse with tap water
   - Triple rinse with distilled water

2. Samples should be "blanked out" for their interference before addition of color development reagent.

3. A water blank must be run in conjunction with any samples to be analyzed. This will indicate contamination of the sample cells or reagents.

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QA/QC 3

QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES FOR POTENTIOMETRIC ANALYSES

1. All potentiometric probes must be inspected visually for cleanliness and electrolyte filling levels. Any problems must be corrected prior to beginning the analysis.

2. Prior to the initiation of unknown determinations, standards must be run prior to the continuation of analysis.

3. Previous standardization values must be compared before sample analysis.

4. A standardization curve is made each day using two to five standards depending on the range of concentrations covered by the method.

BCM

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QA/QC 4

QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES FOR THE DETERMINATION OF METALS BY ATOMIC ABSORPTION

1. The alignment of the respective lamp and burner head or graphite furnace must be checked. Alignment verification must be checked by the analyst whenever the system is changed or adjusted.

2. Hollow cathode lamps should always be warmed up for a minimum of 15 minutes prior to actual analysis.

3. All applicable safety procedures should be adhered to prior to igniting the flame and operating the instrument.

4. Tuning and response optimization should be performed as recommended by the manufacturer for each element to be determined.

BCM

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QA/QC 5

QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES FOR THE DETERMINATION OF ORGANIC CONSTITUENTS BY GAS CHROMATOGRAPHY

1. A standard and blank are run prior to analyses.

2. Spikes should be used when needed to obtain confirmation of qualitation and quantitation.

3. High and low standards must be run for calibration purposes.

4. Standardization curves must be compared with previous curves to indicate loss of one or more compounds in the standard or changes in sensitivity for individual components.

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(Red)

QA/QC 6

QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES FOR GRAVIMETRIC ANALYSES

1. Analytical balances should be mounted on a heavy shock-proof table, preferably one with an adequate working surface and a suitable drawer for storing balance accessories. The balance level should be checked frequently and adjusted when necessary.

2. Balances should be located away from laboratory traffic and protected from sudden drafts and changes in humidity.

3. Balance temperatures should be equilibrated with room temperature. This is especially important if building heat is shut off or reduced during non-working hours.

4. When the balance is not in use, it should be raised from the knife edges, the weights returned to the beam, objects such as the weighing dish removed from the pan, and the slide door closed.

5. Special precautions should be taken to avoid spilling corrosive chemicals on the pan or inside the balance case; the interior of the balance housing should be kept scrupulously clean.

6. Balances should be checked and adjusted periodically by a company serviceman or balance consultant. If service is not available locally, follow the manufacturer's instructions as closely as possible.

7. Standardized weights used to check balance accuracy should meet the U.S. Bureau of Standards specifications for a standard reference weight.

8. The balance zero should be checked before and after each weighing.

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QA/QC 7

QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES FOR THE DETERMINATION OF BIOLOGICAL CONTAMINATION IN WATER AND WASTEWATERS

The Laboratory must control the quality of the routine microbiological analyses by using the Quality Control practices as discussed below.

1. Duplicate Analyses. Run duplicate analyses on ten percent of the known positive samples analyzed and a minimum of one per month. The duplicates may be run as split samples by more than one analyst.

2. Positive Control Samples. Test a minimum of one pure culture of known positive reaction per month for each parameter tested.

3. Negative (Sterile) Control. Include one negative control with each series of samples, using buffered water and the media batch at the start of the test series and following every tenth sample. When sterile controls indicate contamination, data on samples affected should be rejected and a request made for immediate resampling of those waters involved.

4. MF Colony Counting by More than One Analyst. At least once a month, two or more analysts should count the colonies on the same membrane filter from a polluted water source. Colonies on the membrane should be verified and the analysts' counts compared to the verified count.

5. Reference Sample. The Laboratory should analyze reference samples for BOD, TOC and COD.

6. Performance Sample. The Laboratory should analyze at least one unknown performance sample per year for BOD, TOC, and COD.

7. MF Verification. Five percent of the analyses performed should be verified as follows:

   Total Coliforms: Pick at least 20 isolated sheen colonies from each sample and transfer them into lauryl tryptose broth. Incubate and read. Transfer positive tubes into brilliant green bile broth for verification of coliforms.

   Only five colonies need be verified from each positive potable water sample.

BCM

The Laboratory should make every effort to detect coliforms from samples with excessive non-coliforms on the membrane filter. Any sheen colonies appearing in mixed confluent growth must be verified.

Fecal Coliforms: Pick at least 20 isolated colonies containing blue to blue-green pigment and transfer them into to lauryl tryptose broth. Incubate and read. Transfer positive tubes to EC broth where gas production verifies the presence of fecal coliform organisms.

Fecal Streptococci: Pick at least 20 isolated pink to red colonies from MF or pour plates. Transfer them to BHI agar or broth. After growth, perform catalase test: If negative (possible fecal streptococci) transfer growth to 40% bile BHI broth tubes and incubate at 35°C and 45°C. Growth at both temperatures verifies the presence of fecal streptococci.

8. MPN Completion of Total Coliform Test. For routine analyses, complete the MPN test on five percent of the positive confirmed samples and a minimum of one sample per test run.

   For potable waters, complete the MPN test once each quarter on 10% of the positive confirmed samples. If insufficient positive tubes result from the potable water sample, perform the completed test on positive source waters.

9. Measurement of Analyst Precision. If the routine work of the Laboratory includes samples from different wastewaters, surface waters, water supplies or finished waters, control charts should be prepared.

(Red)

QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES FOR THE PREPARATION OF QUALITY CONTROL CHARTS

After an analysis for a specific parameter has been completed a minimum of 15 to 20 times, the quality control charts are prepared. After this initial period, data are added to the quality control chart after each new series of analyses for that parameter.

The two key elements in the quality control of chemical analyses are precision and accuracy. Although these two words are commonly used as synonyms, their meanings are completely different in terms of analytical chemistry.

1. Precision Control Charts

Precision refers to magnitude of the range of values on a series of analyses of duplicate samples. The closer the results of the analyses of these duplicates, the better the precision.

A number of factors affect the precision of an analysis, including: the analytical method itself, care taken during the analysis, and differences in the analytical instrument between the analyses of the duplicates. The quality of reagents used and the sampling technique affect the precision only if the reagents change during the analysis or if different (or unmixed) samples are used for the duplicate analyses.

After 15 to 20 series of analyses have been run for a specific parameter, the precision control chart for that parameter is prepared. This chart is subsequently updated with each additional series of analyses for that parameter.

Examples of typical quality control charts area presented in Figures 3 to 5.

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(red)

1.1 Preparation of Precision Control Charts

The following detailed step-by-step instructions are to be followed in constructing a precision control chart:

1. Perform the analysis for 15 to 20 sets of samples, with at least one duplicate for each set or about 3 percent of the total number of samples, whichever is greater. Details on the number of samples for duplicates and spikes are given in Section 9.

2. Determine the range, R, for each set of duplicates. The range is equal to the difference between the highest and the lowest analytical value on a set of duplicates.

3. Calculate the average range, $\overline{R}$, for the sets of duplicates. To calculate this average, add all the ranges calculated in Item 2 above and divide by the number of duplicate sets.

4. Find the proper D_4 value on Table 1. For the normal case of two duplicates in a set, this value would be 3.27.

5. Calculate the upper control limit (UCL) by: $UCL = D_4 \overline{R}$ (or 3.27 x the average range, in case of two duplicates). All future analyses should fall less than this level.

6. Calculate the upper warning limit (UWL) by: $UWL = 2/3 (D_4\overline{R} - \overline{R}) + \overline{R}$, which reduces to $UWL = 2.51\overline{R}$ for pairs of duplicates. This level corresponds to the 95 percent confidence level - only 5 percent of all future analyses should exceed this value.

7. Graph $\overline{R}$, UWL, and UCL.

2. Accuracy Control Charts

Accuracy refers to how closely an analysis correlates with the "correct" value. In analytical chemistry, however, there is no real "correct" value; therefore, accuracy is based on the closeness to a value which is excepted as correct. For example, if analysis of a sample of an NBS-certified standard results in a value outside of the excepted range of normal error, the analysis is deemed incorrect, not the NBS standard.

In practice, the accuracy of a series of analyses is estimated by running duplicate analyses of standards at various times during an analytical run. The best available standards should be used for this; suitable standards for each parameter can be obtained from the EPA or NBS.

BCM

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TABLE 1

FACTORS FOR COMPUTING CONTROL CHART

Number of Duplicate or Spike Analyses	Factor A_2	Factor D_4
2	1.88	3.27
3	1.02	2.58
4	0.73	2.28
5	0.58	2.12
6	0.48	2.00
7	0.42	1.92
8	0.37	1.86

A number of factors affect the accuracy of an analysis, including: the analytical method itself, care taken during the analysis, the accuracy of the analytical glassware (such as pipettes) and balance, and the quality of reagents used. The affect of the reagents can often be checked by running a reagent blank. This procedure is only partially effective in the case of analyses which have no true zero, such as AA. In AA, the distilled water blank is assumed to be zero. If an ultrapure water sample is analyzed, it may even be possible to get a negative result for a metals analysis because the blank has more of the metal than the sample.

After 15 to 20 series of analyses, have been run for a specific parameter, the accuracy control chart for that parameter is prepared. This chart is subsequently updated with each additional series of analyses for that parameter.

Typical accuracy charts are presented as Figures 1 and 2.

2.1 Preparation of Accuracy Control Charts

The following step-by-step instructions are to be followed in constructing an accuracy control chart:

1. Perform the analyses for 15 to 20 sets of samples, with at least two spikes. Each spike is analyzed in duplicate.

2. For each set of spikes, determine the range, R, and average range, $\overline{R}$, for spike analyses. These determinations are discussed in steps 2 and 3 of the description of precision control charts (Section 10.1.1).

3. Find the proper A_2 value from Table 1. For the normal case of two spikes run in duplicate, use 0.73.

4. Calculate the UCL and LCL (upper and lower control limits as:

   $UCL = A_2\overline{R}$ and $LCL = -A_2\overline{R}$

   or:

   $UCL = 0.73\overline{R}$ and $LCL = -0.73\overline{R}$ for the suggested two spikes

ORIGINAL
(Red)

5. Calculate the UWL and LWL by:

   $UWL = 2/3\ A_2\overline{R}$ and $LWL = -2/3\ A_2\overline{R}$

   or:

   $UWL = 0.49\overline{R}$ and $LWL = -0.49\overline{R}$ for the suggested two spikes

6. Graph UCL, UWL, LWL, and LCL. The zero value is the expected value of the spike or standard in the control group.

7. Calculate and plot the $\overline{X}$ values for each set of samples as follows:

   $$X = D - E \text{ and } \overline{X} = \frac{X}{n}$$

   Where X is the difference between the determined value of the spike (D) and the expected value, and $\overline{X}$ is the sum of each X divided by the number of spikes (n). In this case, n = 4 in each set.

8. The range from the UWL to the LWL should contain 95 percent of all data. All values outside of the UCL or LCL are rejected.

3. Use of the Control Charts

New values are calculated to the control chart with each series of analyses. Only a random fluctuation around the average range is tolerable. If there is a trend to approach the UWL, or LWL, the cause of the problem must be determined. If a table value exceeds the UCL or LWL, all analyses in that series must be rejected.

As the number of series of analyses increases, the control charts must be updated to include the new data. This should be done after each 15 sets of quality control data are obtained. Each control chart, therefore, is expanded to eventually cover a wide range of analyses within the control limits. Values which exceed the UCL or LCL are not included in the new control charts, because the data used for their calculation are rejected.

FIGURE 1

ORIGINAL

BCM

COMPUTATION SHEET

Sheet Number _____ of _____

Date _____

J. O. Number __ - _____ - _

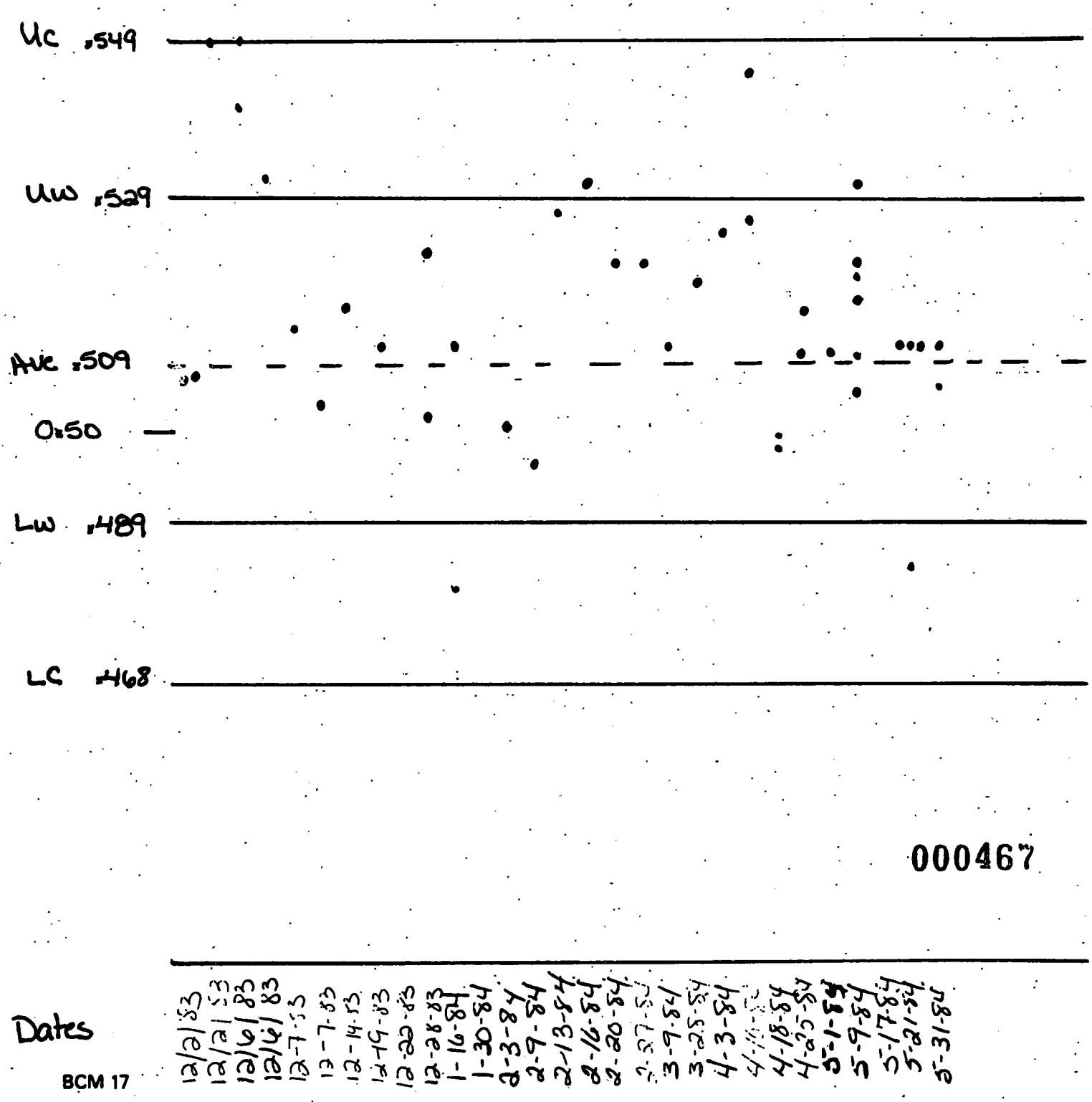
Computed by _____

Checked by (x0053)

Name of Client Zn Accuracy

Project _____

Description 0x50 ppm R



000467

BCM 17

FIGURE 2

ORIGINAL (Red)

BCM

COMPUTATION SHEET

Sheet Number _____ of _____

Date 2/84

J. O. Number __ - _____ - _

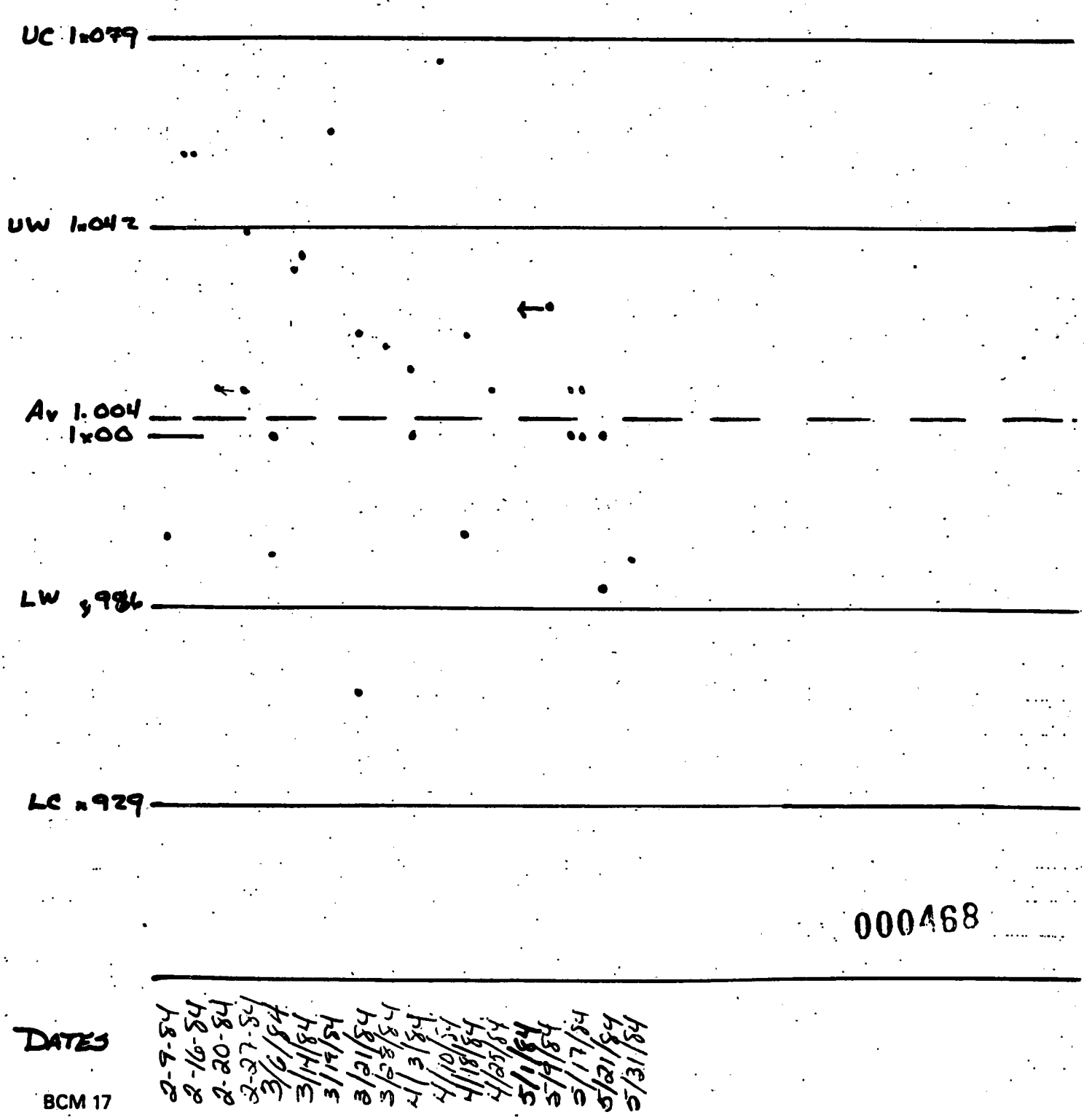
Computed by _____

Checked by (x0053)

Name of Client Zn Accuracy

Project _____

Description 1x00 ppm R.



000468

BCM 17

FIGURE 3

BCM

COMPUTATION SHEET

Sheet Number _____ of _____

Date 11/82

J. O. Number __ - _____ - __

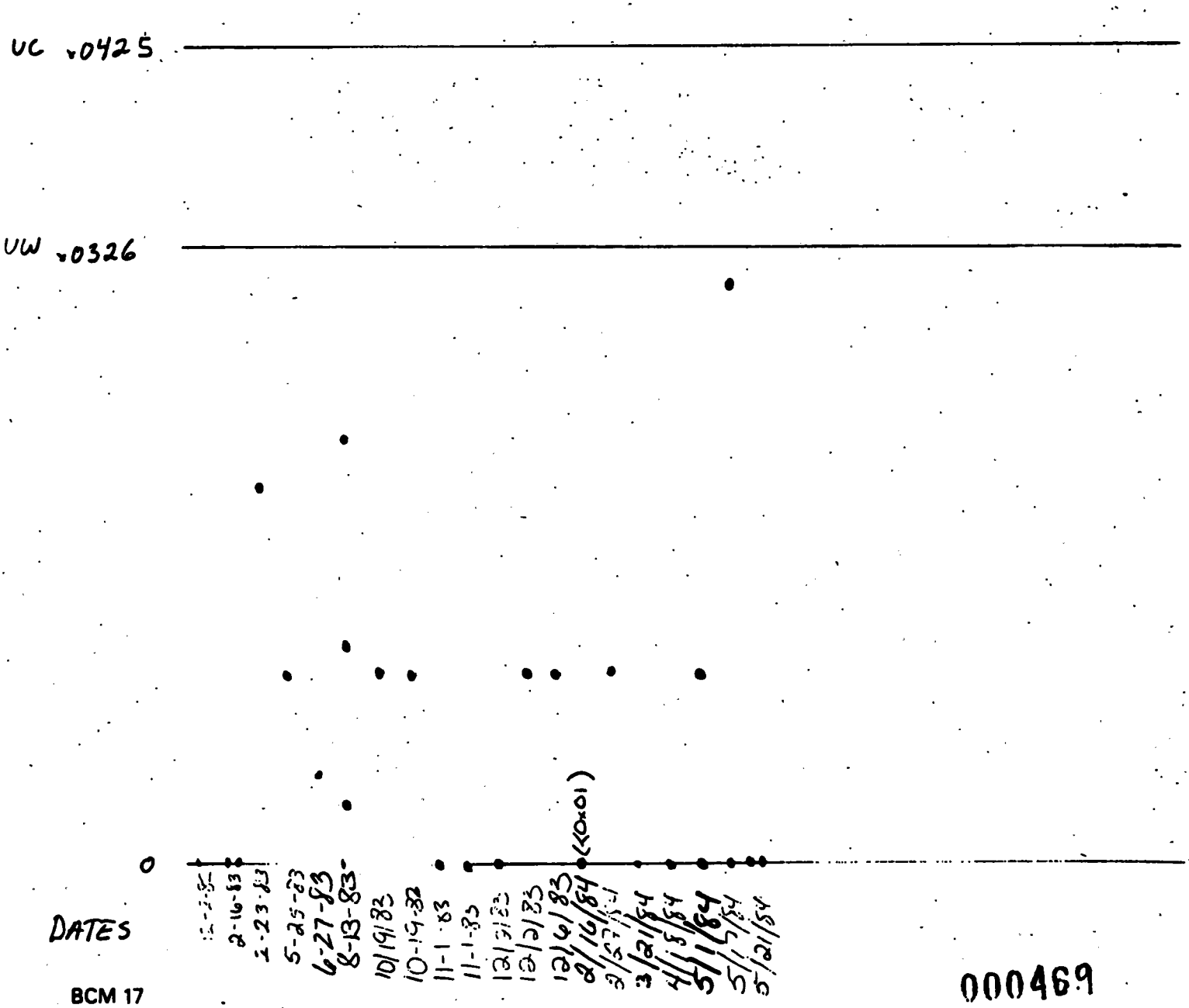
Computed by _____

Checked by (r 0015)

Name of Client Zn Duplicates

Project _____

Description .004 - .040 ppm R



BCM 17

000469

FIGURE 4

INAL

BCM

COMPUTATION SHEET

Sheet Number _____ of _____

Date 4/15

J. O. Number __ - _____ - -

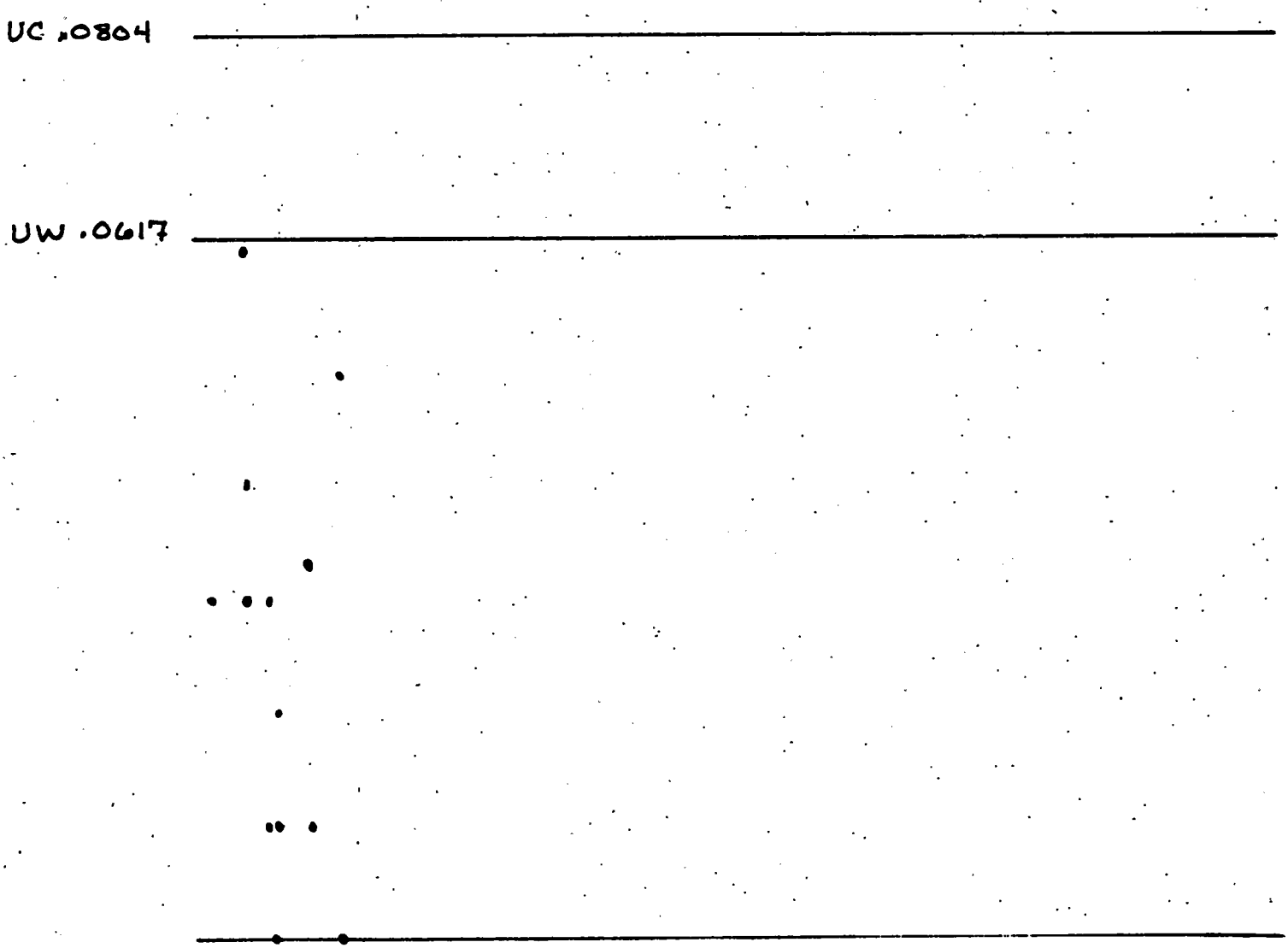
Computed by _____

Checked by (K 0028)

Name of Client Zn Duplicates

Project _____

Description .041 - 1.00 ppm R.



DATES

4-18-84
4-19-84
4-23-84
5-31-84

BCM 17

000470

FIGURE 5

BCM

COMPUTATION SHEET

Sheet Number _____ of _____

Date 4/82

J. O. Number ___ - _____ - _____

Computed by _____

Checked by (x0061)

Name of Client ZN Duplicates

Project _____

Description 1x01 - 2x00

Dx4 cut bt corrosion

UL x173

UW x133

0

DATES 1-10-82 4-4-83 2-7-83 1-4-83 5-31-84

000471

BCM 17

FIGURE 6

BCM

COMPUTATION SHEET

Sheet Number ____ of ____

Date 11/82

J. O. Number __ - ____ - __

Computed by ____

Checked by (x58)

Name of Client Zn spikes

Project ____

Description % R

UC 108.1

UW 104.0

100

AV 99.96

LW 95.90

LC 91.84

DATES

12-2-82
12-3-82
12-16-82
1-10-83
1-21-83
2-24-83
3-4-83
3-11-83
3-15-83
3-30-83
4-12-83
7-13-83
1-4-84
1-16-84
3-21-84
5-17-84

000472

BCM 17

FIGURE 7

Betz • Converse • Murdoch • Inc.

QUALITY CONTROL SUMMARY

DATE	TEST	SAMPLE I. D.	VALUE 1	VALUE 2	VALUE 3	2De
3-16-84	Flame	1x5 mg/l	1x42			-5x
3-21-84	Flame	1x5 mg/l	1x37			-8x
		10 mg/l	10x3			+3
		20 mg/l	19x9			-x5
		10 mg/l	10x2			+2
		5 mg/l	5x22			+4x
3-28-84	Flame	5 mg/l	5x10			+2
4-18-84	Flame	100 mg/l	106			+6
		100 mg/l	106			+6
		5 mg/l	5x12			+2x
		10 mg/l	10x48			+4x
		5 mg/l	5x18			+3x
		5 mg/l	5x18			+3x
4-24-25	Flame	5 mg/l	5x02			+x4
		6108 dup	19x0	19x1		x3
5-9-84	Flame	5 mg/l	5x036			+x7
			5x04			+x8
5-17-84	Flame	1x5 mg/l	1x45			-3x
5-21-84	Flame	20 mg/l	19x8			-1
5-31-84	Flame	5 mg/l	5x12			+2x

000473

FIGURE 9A

BCM

ZINC Zn- 230

SAMPLE NO.	TAPE NO.	PREP. PAGE NO.	PREP. DF/CF	DILUTION FACTOR	Abs	CONC.	CORRECTED CONC.	UNITS
BLANK								
(CAL)								
(CAL)								
(CAL)								
(QC)								

METHOD	CORRELATION	SLOPE	D.L.
DATE	ANALYST		

000474

FIGURE 9B

BCM

ZINC

SAMPLE NO.	TAPE NO.	PREP. PAGE NO.	PREP. DF/CF	DILUTION FACTOR	Abs	CONC.	CORRECTED CONC.	UNITS
(QC)								
(QC)								

000475

ORIGINAL
(Red)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
CENTRAL REGIONAL LABORATORY
839 BESTGATE ROAD
ANNAPOLIS, MARYLAND 21401

301-224-2740
FTS-922-3752

DATE : October 28, 1985

SUBJECT: Review of Henderson Road Site POP and BCM QA/QC Plan
(Applicable to Henderson Road, Palmerton Zinc and ~~Metal Bank~~ Rohm & Haas)

FROM : Patricia J. Krantz (3ES20)
QAO, CRL

TO : Paula Luborsky (3HW12)
Carol Stokes (3HW12)
Jack Kelly (3HW12)

Per your request, I have reviewed the documents you supplied and have the following comments, questions or observations:

Henderson Road POP

1. There is a contradiction in parameter requests on pages 7 and 8 related to injection well sampling; p. 7 says Priority Pollutant VOCs, and p. 8 says Priority Pollutant Organic Compounds and Inorganics.

2. A table of parameter, sample type, container, volume and preservative would help clarify that the proper containers and preservatives are to be used and that sufficient volume for lab QC and reanalysis will be available. Holding times should be included. A reference like the one on A-10 is unacceptable because it does not allow the reviewer or user to verify that the submitter actually knows the applicable EPA requirements.

3. Regarding reservoir sampling (p. 20) I believe BCM actually means "field blank" in the last paragraph.

4. It is unclear whether the "filtration for non-volatile parameters" referred to on p. 32 is for leachate only or whether it applies to all sample types.

5. The table of proposed analytical methods, presented on A-9, is not specific enough to allow review--in terms of meeting your objectives; specifically:

   --They clearly propose a combination of GC/MS and GC procedures, but they do not include any explanation of how or why this scheme was chosen, what the benefits are (cost, etc.), exactly which sample would be done by which method, etc.

   --The method citations are too broad; exactly which method for which compound or element, metals by flame, furnace or ICP, etc., should be included?

--Need to address analytical options such as surrogates (which ones used), internal standards, methods of additions, column selection, etc.

--For the 600 series each method has a required "start-up" procedure and specific QC requirements--have they done the start-up and do they follow the methods exactly?

6. It was unclear on the VOC sampling, so I will suggest that all samples be collected in duplicate at a minimum, preferably in triplicate.

7. Regarding the Table on A-15: Detection limits, etc.:

--Methods 624 and 625 were not included.

--The detection limits for 601-603 and 604-612 were stated as 5 and 10 ug/L, respectively. In actuality, the method write-ups have 1) DLs significantly less than 5 or 10 ug/L, and 2) are listed by individual compound. Did you specify 5 and 10 ug/L as being your objective?

--How long is a "shift"?

--What are units of precision?

--Were these objectives stated by you based on the intended use of the data? Derived by the lab on similar samples (lab control limits)? In other words, how were objectives established?

8. Pages A-19 and A-21 refer to "EPA certified" and "audited by the agencies"--to what are they referring?

9. Per our discussion, I was pleased to see that the plan calls for all QC data to be reported with the analytical results (pages A-20/21).

10. If they subcontract (page A-21), do all requirements (QA/QC, etc.) transfer to the subcontractor?

11. Plan should include specific instruction/description on how field blanks will be prepared.

12. For purposes of clarification--is the SOP referred to on p. A-21 and elsewhere, the same as the Laboratory QA/QC Program?

<u>QA/QC Program</u> (BCM)

In general the document is well-prepared and would indicate a sound committment to the production of data of known quality and/or data which meets user needs. As a "generic" attachment to specific POPs or Sampling/Work Plans it is satisfactory, except perhaps, in one main

ORIGINAL
(Red)

area-organics. Given the complexity and diversity of the 600 series and SW-846 organic methods, the plan should include GC/MS (which it does not currently address at all) and more detail regarding the anlytical options and QC included in the individual methods. Even with these modifications, the document cannot stand on its own as a "plan" for a specific project--as an attachment, however, it avoids redundancy.

After reviewing several similar projects, it seems that the areas most frequently requiring clarification or greater detail are:

1) parameter requirements;

2) sampling QC (duplicate, field blank preparation, holding time, etc.);

3) specific method citation/description (including options and QC);

4) quantitative data quality objectives (detection limits, precision, and accuracy requirements); and

5) data reporting (how and what to report).

With these comments in mind, please let me know if you have any questions. I would be happy to look at Palmerton Zinc and ~~Metal Bank~~ Rohm & Haas> POPs if you desire further assistance.

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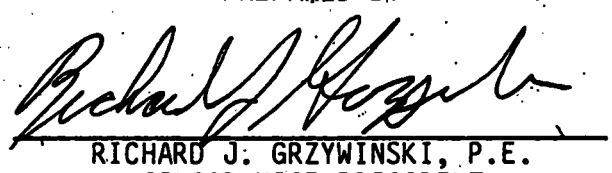
EXECUTIVE SUMMARY
LANDFILL INVESTIGATION REPORTS

J.3

ROHM AND HAAS COMPANY
BRISTOL, PENNSYLVANIA

FEBRUARY 1985

PREPARED BY



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CONTENTS

1.0 INTRODUCTION 1

2.0 BACKGROUND OF THE PROJECT 2

2.1 Description of the Landfill 2
2.2 Objectives of the Investigations 2

3.0 SUMMARY OF APRIL 1984 - REPORT ON LANDFILL INVESTIGATION 3

3.1 Objective and Scope 5
3.2 Findings and Conclusions 5

4.0 SUMMARY OF FEBRUARY 1985 - REPORT ON LANDFILL INVESTIGATION 8

4.1 Water Resampling 8
4.2 Soil Resampling 15
4.3 Magnetic Survey 18
4.4 Terrain Conductivity Survey 19
4.5 Radar Survey 25
4.6 Confirmation Test Pits 27
4.7 Air Quality Study 31

TABLES

Table 4-1 Sampling Parameters and analytical Methods 11
Table 4-2 Summary of Magnetic Survey 21
Table 4-3 List of Organic Target compounds for Air Survey 34

FIGURES

Figure 2-1 Location Map 3
Figure 2-2 Study Area Map 4
Figure 4-1 Monitoring Well Locations 9
Figure 4-2 Surface Water and Sediment Sampling Locations 10
Figure 4-3 August 8, 1984, Shallow Groundwater Contour Map 14
Figure 4-4 Grid Layout for Soil Analysis, June/July 1984 17
Figure 4-5 Magnetic Survey Grid Locations 20
Figure 4-6 Magnetic Field Contour Map 22
Figure 4-7 Terrain Conductivity Survey, Grid Locations 24
Figure 4-8 Ground-Penetrating Radar Survey Study Area 26
Figure 4-9 Test Pit Locations and Magnetic Anomalies 29
Figure 4-10 TAGA Grid Air Sampling Locations 32
Figure 4-11 TAGA Sampling Program, June/July 1984 33

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1.0 INTRODUCTION

This Executive Summary is Volume I of a six-volume set of reports prepared by BCM Eastern Inc. (BCM) for Rohm and Haas Company (Rohm and Haas). The reports deal with an ongoing environmental investigation at the inactive Rohm and Haas Company industrial waste landfill located in Bristol Township, Bucks County, Pennsylvania.

This Executive Summary provides a concise description of the scope of the investigation and its principal findings and conclusions. More detailed information can be found in the following companion volumes:

VOLUME II - Part 1 - Water Resampling
Part 2 - Soil Resampling

VOLUME III - Magnetic Survey

VOLUME IV - Terrain Conductivity Survey

VOLUME V - Part 1 - Radar Survey
Part 2 - Confirmation Test Pits

VOLUME VI - Air Quality Study

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2.0 BACKGROUND OF THE PROJECT

2.1 DESCRIPTION OF THE LANDFILL

The Rohm and Haas industrial landfill is located in the Croydon area of Bristol Township in Bucks County, Pennsylvania. The location of the landfill study area is shown in Figure 2-1.

Rohm and Haas operated the landfill on Rohm and Haas property adjacent to their Bristol (Manufacturing Areas A and C) and Croydon (Manufacturing Area B) facilities from 1952 to 1975. The landfill was used as a repository for selected Rohm and Haas-generated wastes. The only other material accepted was Bristol township refuse from several community cleanup/fixup campaigns. No materials from other industries were accepted into the landfill at any time.

The overall landfill area has approximate lateral dimensions of 5,800 feet (northeast-southwest) by 800 to 2,000 feet (northwest-southeast). The landfill area is bounded to the north by River Road and on the south by the Delaware River and the Rohm and Haas treated water basins. The landfill area is bounded on the west by the western boundary of the Bristol Township Sewage Treatment Plant and on the east by the Rohm and Haas wastewater treatment facility and central engineering building. The Bristol Township Sewage Treatment Plant and a private chemical transport company now occupy 22 acres of the northwest corner of the former landfill area. Rohm and Haas Manufacturing Area B is located in the eastern portion of the landfill study area. Approximately 120 acres were used for landfilling operations. Figure 2-2 shows the Rohm and Haas property boundary.

2.2 OBJECTIVES OF THE INVESTIGATIONS

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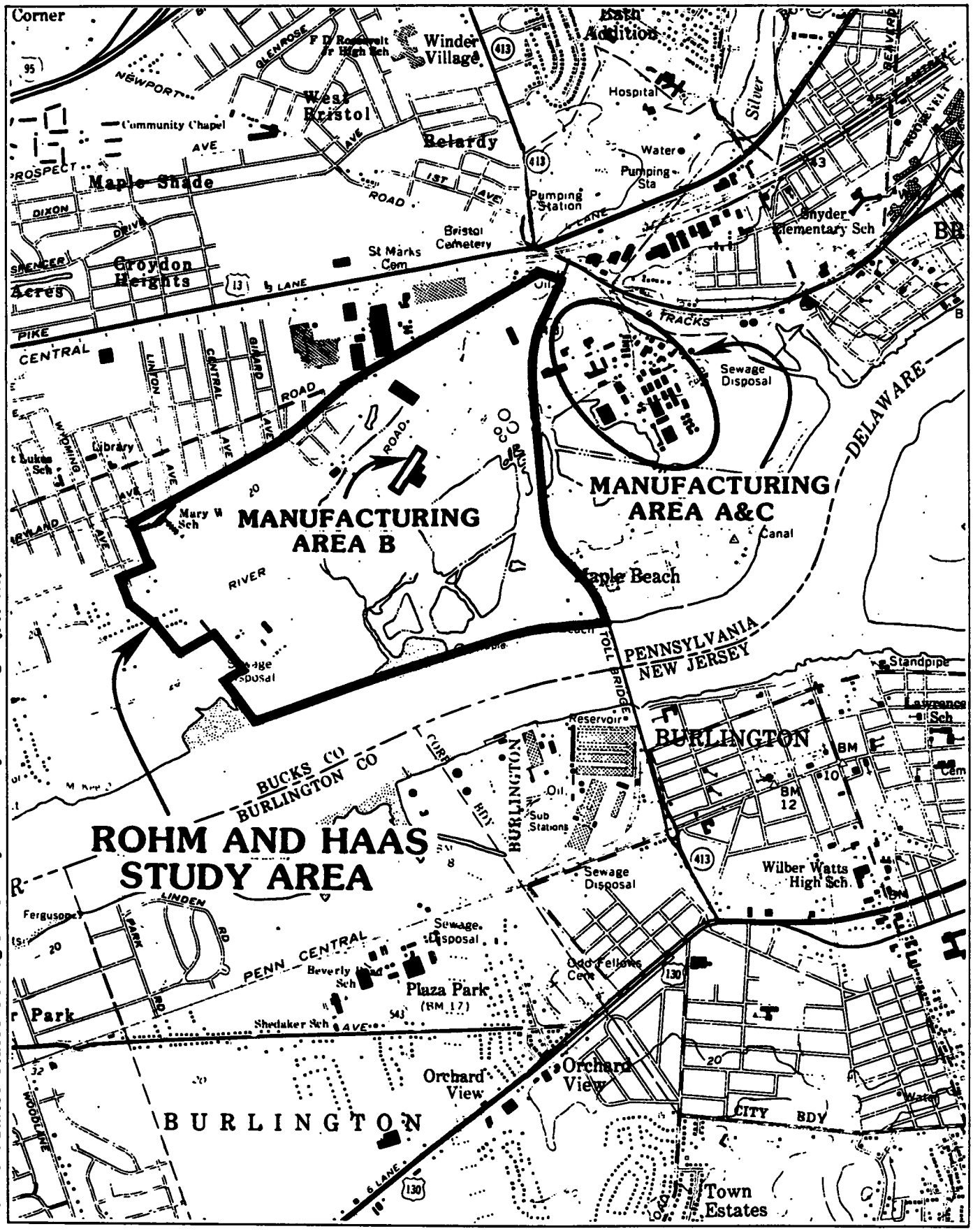
The first objective of the environmental investigation of the landfill was to determine whether the landfill presented an imminent threat to human health or the environment. This objective was achieved in the study conducted by BCM from the Fall of 1983 to the Spring of 1984. In an April 1984 report entitled "Report on Landfill Investigation," BCM concluded that, based upon comprehensive testing of water, soil, and air quality, an imminent threat to human health and the environment did not exist.

The second objective of the investigation was to develop a better understanding of the nature and extent of the problem, including the effect of seasonal variations, and to confirm the findings of the April 1984 report. This objective was achieved in the study presented by this six-volume, February 1985 report.

The final objective is the development of a plan to remediate any long-term environmental problems associated with the landfill. These remedial investigations and feasibility studies are in progress and scheduled for completion in 1985.

BCM Engineers, Planners and Scientists



SOURCE: United States Geological Survey – Beverly Quadrangle (PA–NJ)

0 2000 ft.

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APRIL 1984

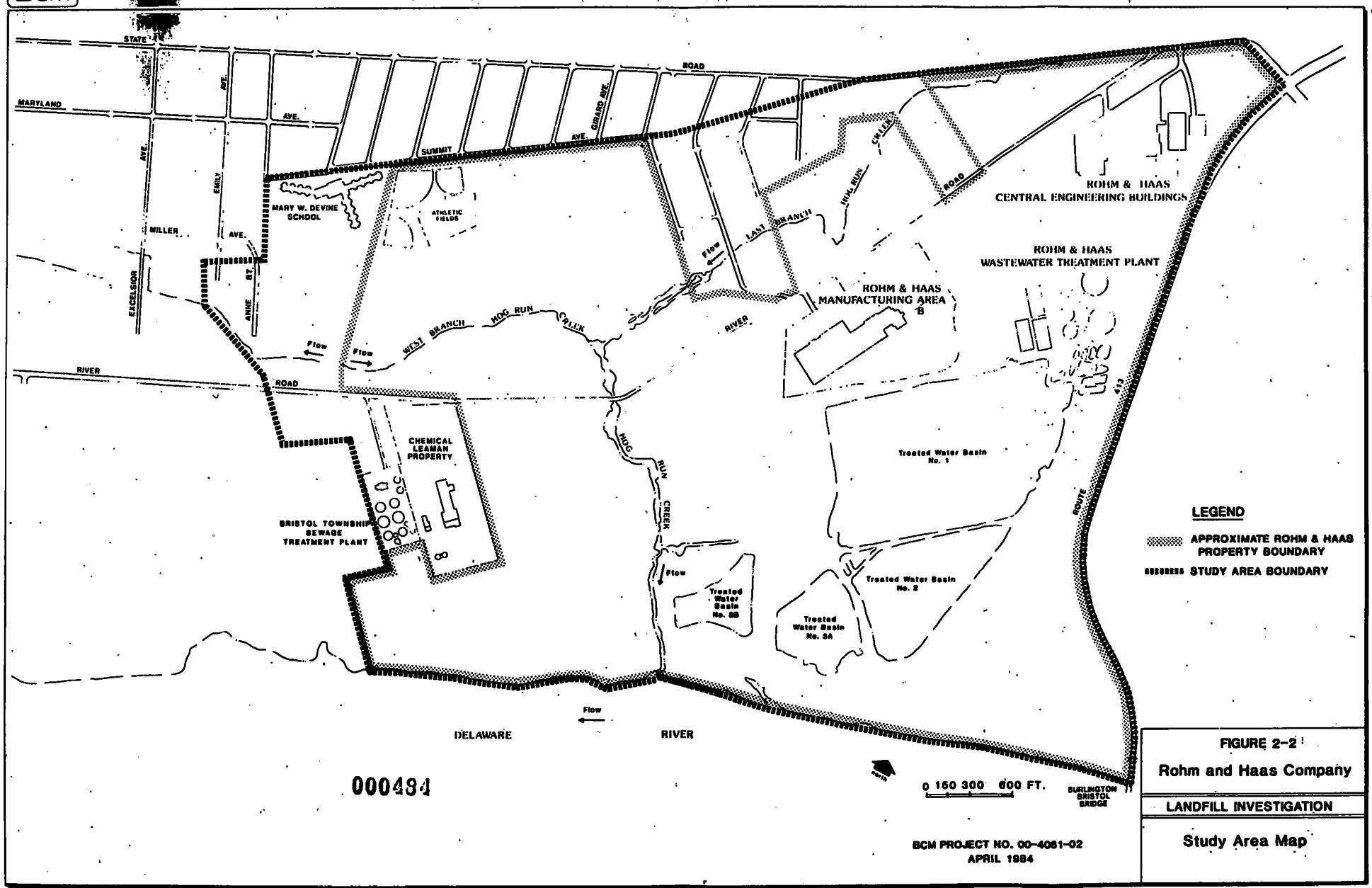
LANDFILL INVESTIGATION

BCM PROJECT NO. 00-4061-02

FIGURE 2-1

000483 LOCATION MAP

Rohm and Haas Company



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BCM PROJECT NO. 00-4061-02
APRIL 1984

FIGURE 2-2
Rohm and Haas Company
LANDFILL INVESTIGATION
Study Area Map

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3.0 SUMMARY OF APRIL 1984 - REPORT ON LANDFILL INVESTIGATION

3.1 OBJECTIVE AND SCOPE

The objective of the April 1984 report was to determine whether the landfill presented an imminent threat to human health or the environment; that is, whether remedial measures were immediately necessary prior to further investigation of the landfill. The study efforts, therefore, focused on the quality of water (both below ground and on the surface), soils, and air. The study area included the landfill itself, adjacent land parcels owned by Rohm and Haas and others, groundwater beneath the properties, and surface water bodies where they pass through, or are adjacent to, the landfill area.

3.2 FINDINGS AND CONCLUSIONS

3.2.1 Water Quality

The principal findings with respect to the effect of the landfill on local and regional groundwater and surface water quality were as follows:

1. All groundwater beneath the landfill discharges to Hog Run Creek and/or the Delaware River. Groundwater beneath the landfill does not flow to any residential areas, and therefore does not affect the quality of local water supplies.

2. Levels of ammonia and sulfates were elevated in many groundwater monitoring wells and in Hog Run Creek. The discharge of ammonia has no significant effect on the quality of the water in the Delaware River; however, ammonia concentrations at one location in Hog Run Creek exceeded the proposed U.S. Environmental Protection Agency (EPA) criteria for protection of freshwater aquatic life. The levels of sulfates have no significant effect on Hog Run Creek or the Delaware River.

3. Oxygen-demanding substances, as measured by chemical oxygen demand (COD) and total organic carbon (TOC), were elevated in many groundwater monitoring wells and in Hog Run Creek. The levels detected have no significant effect on aquatic conditions in Hog Run Creek and are insignificant in comparison to existing quantities in the Delaware River.

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4. Twenty-seven of the 113 organic priority pollutants designated by the EPA were detected in groundwater monitoring wells. The sum total of all of these compounds did not exceed one part per million (milligrams per liter - mg/l) in any one well. Two of the compounds were detected in Hog Run Creek but at levels that are not environmentally significant. None were detected in the Delaware River.

5. The trichloroethylene (TCE) contaminated groundwater detected in monitoring wells near Manufacturing Area B flows from the residential neighborhood north of Hog Run Creek to the Rohm and Haas property.

6. For those metallic parameters included within the EPA's primary drinking water standards, the measured concentrations in 48 of 50 wells analyzed for those parameters and all surface water and seep locations were within (better quality than) the standards. Two wells slightly exceeded the standards for chromium and arsenic.

7. No pesticides, PCBs, or dioxin were detected in any water sample.

8. Based on the evaluations of water quality conducted in the study, the landfill does not present an imminent threat to human health or the environment.

3.2.2 Soil Conditions

The principal findings and conclusions with respect to the effect of the landfill on local soil conditions were as follows:

1. There is no soil contamination on the grounds of the Mary Devine School, adjacent ballfields, or along the northern perimeter of the landfill.

2. DDT and its degradation products (metabolites) were detected at the site of the former Bucks County Mosquito Control Commission (BCMCC); however, the concentrations were not considered significant.

3. Polynuclear aromatic compounds (PNAs) were detected at low levels in the soils at the Maple Beach West area; however, the levels were less than 1/2 part per million (ppm) and were, therefore, not considered significant.

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4. Volatile organic compounds (VOCs) were detected in subsurface waste samples collected from the Bristol Township Sewage Treatment Plant property and were not considered significant if left undisturbed.

5. Based on the evaluation of soil conditions conducted in the study, the landfill does not present an imminent threat to human health or the environment.

3.2.3 Air Quality

The principal findings and conclusions with respect to the effect of the landfill on local air quality are as follows:

1. Benzene, toluene, and xylene were detected on the surface of the landfill close to the limits of analytical detection. The levels were, however, well below the strictest environmental guidelines available for comparison, i.e., using the protocols established by the City of Philadelphia, Air Management Services (AMS).

2. At the perimeter of the landfill, benzene and xylene were each detected at levels well below the AMS guidelines.

3. Based on the evaluation of air quality conducted in the study, the landfill does not present an imminent threat to human health or the environment.

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4.0 SUMMARY OF FEBRUARY 1985 - REPORT ON LANDFILL INVESTIGATION

4.1 WATER RESAMPLING

4.1.1 Report Sequence

The results of the water resampling project are reported in Volume II, Part 1 of the February 1985 reports.

4.1.2 Objectives

The objectives of the water resampling project were to identify seasonal trends in groundwater and surface water quality, and to confirm the sampling results and conclusions reported in the April 1984 report.

4.1.3 Approach

Each of the 57 groundwater monitoring wells and 7 piezometers installed in the earlier project were resampled. Sampling locations along Hog Run Creek were generally resampled and, in addition, seven additional locations were added to better characterize surface water quality. The locations of groundwater monitoring wells are shown in Figure 4-1. Surface water and sediment sampling locations are shown in Figure 4-2.

The list of parameters is shown in Table 4-1 and is identical to the initial sampling parameter list, with the addition of xylenes and total organic halides (TOX).

Sampling and analytical methodologies used in the initial sampling were maintained whenever possible to minimize externally introduced variability in the monitoring results.

Finally, water levels in groundwater monitoring wells and piezometers were monitored monthly.

4.1.4 Findings and Conclusions

The principal findings and conclusions of the water resampling project are as follows:

1. The overall pattern of groundwater flow reported in the April 1984 report remained consistent throughout the six-month period from May to October 1984, i.e., all groundwater beneath the landfill flows to Hog Run Creek and/or the Delaware River. Groundwater at any depth does not flow to any residential area. A typical groundwater flow pattern (August 1984) is shown in Figure 4-3.

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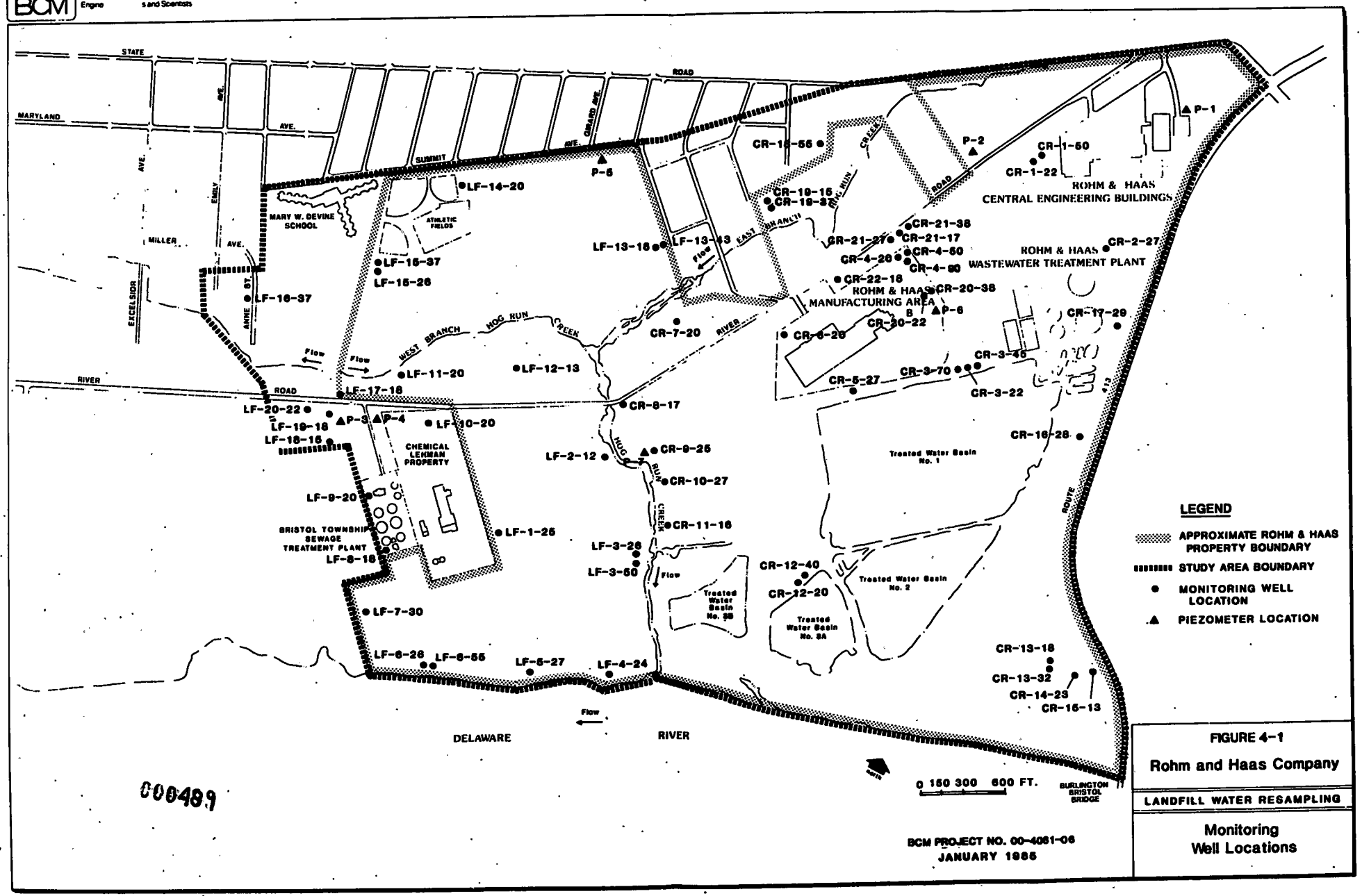
BCM Engineers and Scientists



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BCM PROJECT NO. 00-4061-06
JANUARY 1985

FIGURE 4-1
Rohm and Haas Company
LANDFILL WATER RESAMPLING
Monitoring Well Locations

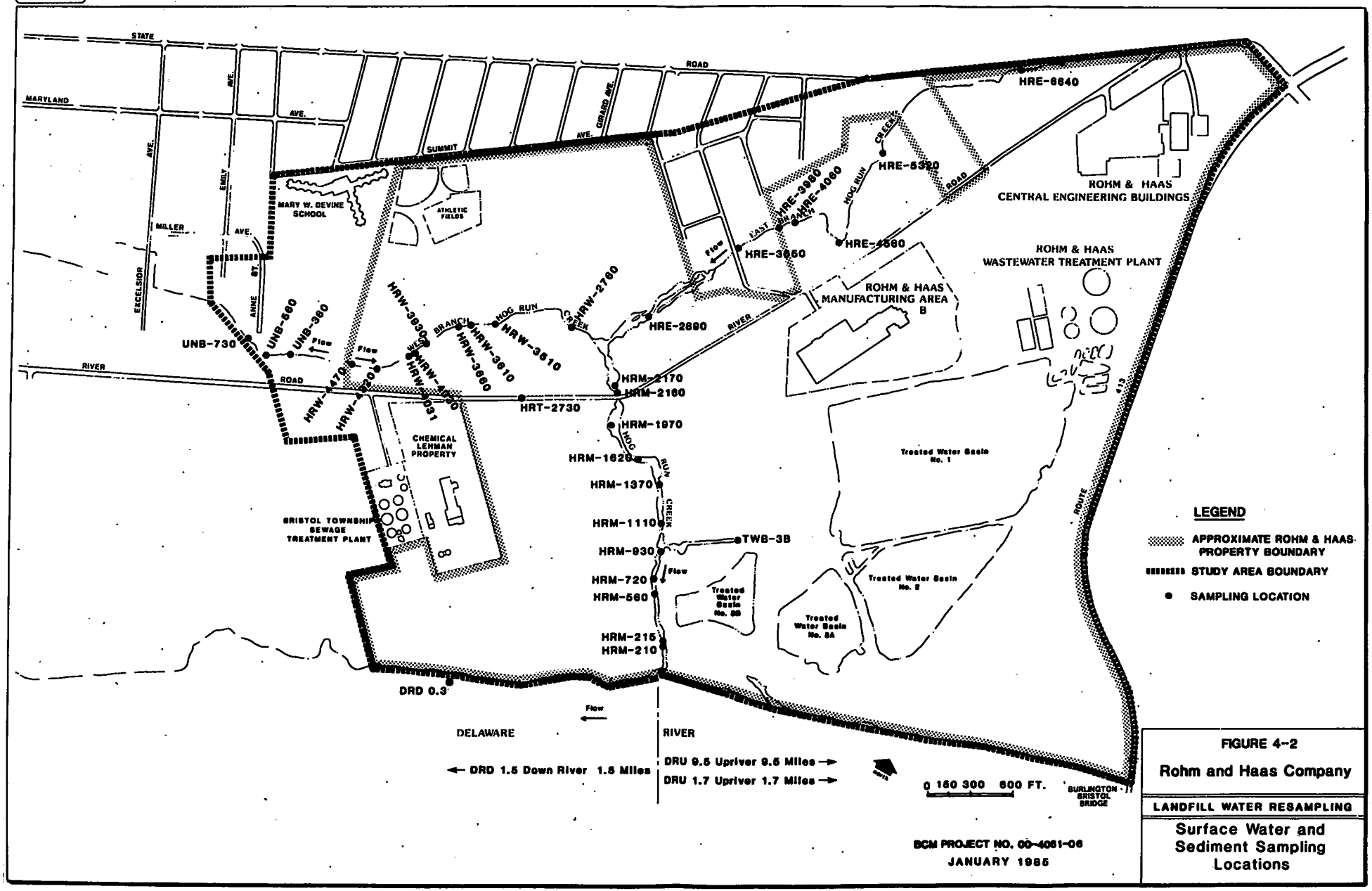

FIGURE 4-2

Rohm and Haas Company

LANDFILL WATER RESAMPLING

Surface Water and Sediment Sampling Locations

BCM PROJECT NO. 00-4061-06

JANUARY 1985

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SAMPLING PARAMETERS AND ANALYTICAL METHODS

Parameter	EPA Method #	Description of Method
Category 1		
TOC	415.1	Combustion infrared method
TOX	8.56	Combustion electrotitration
BOD_5	405.1	Winkler or electrode method (Azide modification)
COD	415.1	Dichromate reflux
Specific Conductance	120.1	Wheatstone bridge conductimetry
pH	150.1	Electrometric measurement
Category 2		
Ammonia	350.(1-2)	Colorimetric, Automated Phenate
Boron	404A	Colorimetric (curcumin)
Chloride	325.3	Mercuric Nitrate
Fluoride	340.2	Distillation followed by ion electrodes SPADNS
Iron	236.1	Digestion followed by atomic absorption
Nitrate	300.0	Ion chromatograph
Phosphate	365.2	Persulfate digestion and ascorbic acid
Sulfate	300.0	Ion chromatograph
Sodium	273.1	Digestion followed by atomic absorption
Potassium	258.1	Digestion followed by atomic absorption
Tin	282.1	Digestion followed by atomic absorption
Barium	208.1	Digestion followed by atomic absorption
Sulfide	427D Standard Methods	Iodometric titration
Manganese	243.1	Digestion followed by atomic absorption
Category 3		
Oil and grease	413.1	Liquid-liquid extraction with trichloro-trifluoro-ethane-gravimetric
MBAS	425.1	Colorimetric
MEK	Special BCM Method	Gas chromatography
Isobutyl alcohol	Special BCM Method	Gas chromatography
n-Butyl alcohol	Special BCM Method	Gas chromatography
Isopropyl alcohol	Special BCM Method	Gas chromatography
Ethanol	Special BCM Method	Gas chromatography
Butyl methacrylate	Special BCM Method	Gas chromatography
Methyl methacrylate	Special BCM Method	Gas chromatography
Ethyl acrylate	Special BCM Method	Gas chromatography
Butyl acrylate	Special BCM Method	Gas chromatography
Styrene	Special BCM Method	Gas chromatography
Acetone	Special BCM Method	Gas chromatography
Ethyl acetate	Special BCM Method	Gas chromatography
Cellosolve acetate	Special BCM Method	Gas chromatography
Butyl cellosolve	Special BCM Method	Gas chromatography
Dithane	Rohm and Haas Method	Gas chromatography
Lethane	Rohm and Haas Method	Gas chromatography
Karathane	Rohm and Haas Method	Liquid - liquid extraction, colorimetric
DNCP	Rohm and Haas Method	Liquid - liquid extraction, colorimetric
Xylene	602	Gas chromatography
Category 4		
Volatile organics	624	Gas chromatography
Chloromethane		
Bromomethane		
Vinyl chloride		
Chloroethane		
Methylene chloride		
Trichlorofluoromethane		
1,1-Dichloroethene		
1,1-Dichloroethane		
trans-1,2-Dichloroethylene		
Chloroform		
1,2-Dichloroethane		
1,1,1-Trichloroethane		
Carbon tetrachloride		
Bromodichloromethane		
1,2-Dichloropropane		
trans-1,3-Dichloropropylene		
Trichloroethylene		

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TABLE 1
SAMPLING PARAMETERS AND ANALYTICAL METHODS

Parameter	EPA Method #	Description of Method
Dibromochloromethane and/or 1,1,2-Trichloroethane and/or cis-1,3-Dichloropropylene		
Bromoform		
1,1,2,2-Tetrachloroethane and/or Tetrachloroethane		
Chlorobenzene		
Benzene		
Toluene		
Ethyl benzene		
1,2-Dichlorobenzene		
1,3-Dichlorobenzene		
1,4-Dichlorobenzene		
Base neutrals	625	Gas chromatography/Mass spectroscopy
N-Nitrosodimethylamine		
bis(2-Chloroethyl) ether		
1,3-Dichlorobenzene		
1,4-Dichlorobenzene		
1,2-Dichlorobenzene		
bis(2-Chloroisopropyl) ether		
Hexachloroethane		
N-Nitrosodi-n-propylamine		
Nitrobenzene		
Isophorone		
bis(2-Chloroethoxy) methane		
1,2,4-Trichlorobenzene		
Napthalene		
Hexachlorobutadiene		
Hexachlorocyclopentadiene		
2-Chloronaphthalene		
Dimethyl phthalate		
Acenaphthylene		
2,6-Dinitrotoluene		
Acenaphthene		
2,4-Dinitrotoluene		
Diethyl phthalate		
Fluorene		
4-Chlorophenyl phenyl ether		
N-Nitrosodiphenylamine		
1,2-Diphenylhydrazine (Azobenzene)		
4-Bromophenyl phenyl ether		
Hexachlorobenzene		
Phenanthrene		
Anthracene		
Di-n-butyl phthalate		
Fluoranthene		
Benzidine		
Pyrene		
Butyl benzyl phthalate		
Benzo(a)anthracene		
3,3'-Dichlorobenzidine		
Chrysene		
bis(2-Ethylhexyl) phthalate		
Di-n-octyl phthalate		
Benzo(b)fluoranthene		
Benzo(k)fluoranthene		
Benzo(a)pyrene		
Indeno(1,2,3-c,d)pyrene		
Dibenzo(a,h)anthracene		
Benzo(g,h,i)perylene		

000492

Parameter	EPA Method #	Description of Method
Acid extractables	625	Gas chromatography
Phenol		
2-Chlorophenol		
2-Nitrophenol		
2,4-Dimethylphenol		
2,4-Dichlorophenol		
p-Chloro-m-cresol		
2,4,6-Trichlorophenol		
2,4-Dinitrophenol		
4-Nitrophenol		
4,6-Dinitro-o-cresol		
Pentachlorophenol		
PCB/Pesticides	608	Gas chromatography
Aldrin		
Alpha-BHC		
Beta-BHC		
Gamma-BHC		
Delta-BHC		
Chlordane		
4,4'-DDT		
4,4'-DDE		
4,4'-DDD		
Dieldrin		
Endosulfan I		
Endosulfan II		
Endosulfan Sulfate		
Endrin		
Endrin Aldehyde		
Heptachlor		
Heptachlor Epoxide		
PCB-1242		
PCB-1252		
PCB-1221		
PCB-1232		
PCB-1248		
PCB-1260		
PCB-1016		
Toxaphene		
Phenols	420.2	Colorimetric, Automated 4-AAP with Distillation
Cyanide	335.3	Colorimetric, Automated UV
Antimony	204.1	Digestion followed by atomic absorption
Arsenic	206.2	Digestion followed by atomic absorption
Beryllium	210.1	Digestion followed by atomic absorption
Cadmium	213.2	Digestion followed by atomic absorption
Chromium	218.2	Digestion followed by atomic absorption
Copper	220.1	Digestion followed by atomic absorption
Mercury	245.5	Digestion followed by atomic absorption
Lead	239.2	Digestion followed by atomic absorption
Selenium	270.2	Digestion followed by atomic absorption
Silver	272.2	Digestion followed by atomic absorption
Thallium	279.1	Digestion followed by atomic absorption
Zinc	289.1	Digestion followed by atomic absorption
Nickel	249.1	Digestion followed by atomic absorption
Herbicides		
2,4-D	509B standard methods	Gas chromatograph
2,4,5-TP	509B standard methods	Gas chromatograph
Category 5		
Gross alpha	900.0	
Gross beta	900.1	
Total radium	900.0	
Category 6		
Dioxin (2,3,7,8-TCDD)		Gas chromatograph/Mass spectroscopy

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Source: BCM Eastern Inc. (BCM Project No. 00-4061-06)

BCM Engineers Pla[illegible]cientists

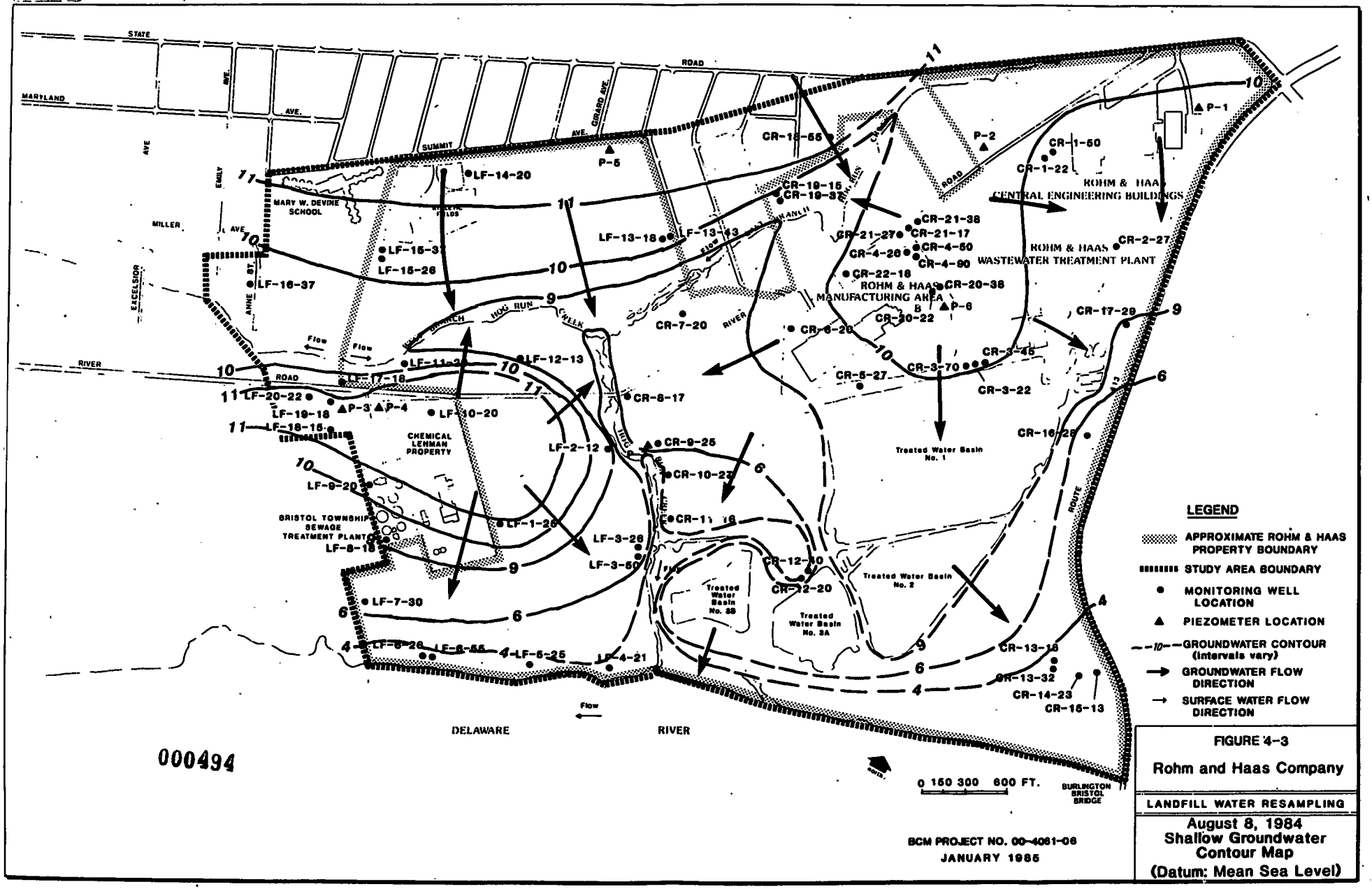

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FIGURE 4-3

Rohm and Haas Company

LANDFILL WATER RESAMPLING

August 8, 1984
Shallow Groundwater Contour Map
(Datum: Mean Sea Level)

BCM PROJECT NO. 00-4081-06
JANUARY 1985

2. The levels of ammonia estimated to be discharged from the landfill increased. While still not significant in terms of the net ammonia discharge to the Delaware River, the ammonia concentrations in Hog Run Creek again exceeded the proposed EPA criteria. These criteria have subsequently been proposed for adoption by the Commonwealth of Pennsylvania (September, 1984).

3. The total estimated amount of priority pollutant organics and category 3 (Rohm and Haas-specific) parameters discharged to Hog Run Creek or the Delaware River is estimated to be 0.08 to 0.4 pounds per day.

4. The spatial distribution of TCE-bearing groundwater remained generally consistent with the April 1984 findings, except that TCE concentrations were markedly lower. Also, TCE was detected in well No. CR-12-40 for the first time. This well is located in a direction toward the Delaware River from the other TCE-contaminated wells, reflecting the predominant direction of groundwater flow to the Delaware River.

5. Other observations with respect to the levels and types of contaminants in all wells were generally confirmed with the notable exception of xylene. This compound, not analyzed in the previous study, was detected in several wells and, in particular, in well No. LF-4-21 at a level of 1.7 ppm.

6. Based on a review of the water quality data generated in the water resampling project, the landfill still does not pose an imminent threat to human health or the environment.

4.2 SOIL RESAMPLING

4.2.1 Report Sequence

The results of the soil resampling project are reported in Volume II, Part 2 of the February 1985 report.

4.2.2 Objectives

The April 1984 report found no soil contamination, with the exception of the following: DDT at the former BCMCC property; volatile organic compounds beneath the property of the Bristol Township Sewage Treatment Plant; and polynuclear aromatic compounds in the Maple Beach West area. Of these findings, the presence of DDT warranted further investigation as to the quantity and extent of contamination. In addition, ethyl acrylate

000495

was generally detected throughout the study area; however, because the levels were at or near the limit of analytical detection, the results were suspect and required additional verification.

4.2.3 Approach

The former BCMCC site is located on land owned by Rohm and Haas between River Road and the west branch of Hog Run Creek, as shown in Figure 4-4. The site covers approximately 7 acres. With the exception of small areas adjacent to River Road, the site is occupied by weeds, heavy underbrush, and, towards Hog Run Creek, relatively open woodland. Due to illegal public dumping, small areas containing miscellaneous refuse are scattered around the site.

In June 1984, the grid network depicted in Figure 4-4 was established at the site. Survey stakes were placed at the corners of Grids 1 through 35.

A control sample was collected on the opposite side from the site of Hog Run Creek approximately 700 feet northwest of River Road. This sample was collected and analyzed in the same manner as all the other samples.

For the ethyl acrylate analysis, surface soil samples were collected in July 1984 from most of the landfill perimeter areas sampled in October and November 1983. Soil samples were collected in the same manner used during the 1983 sampling program.

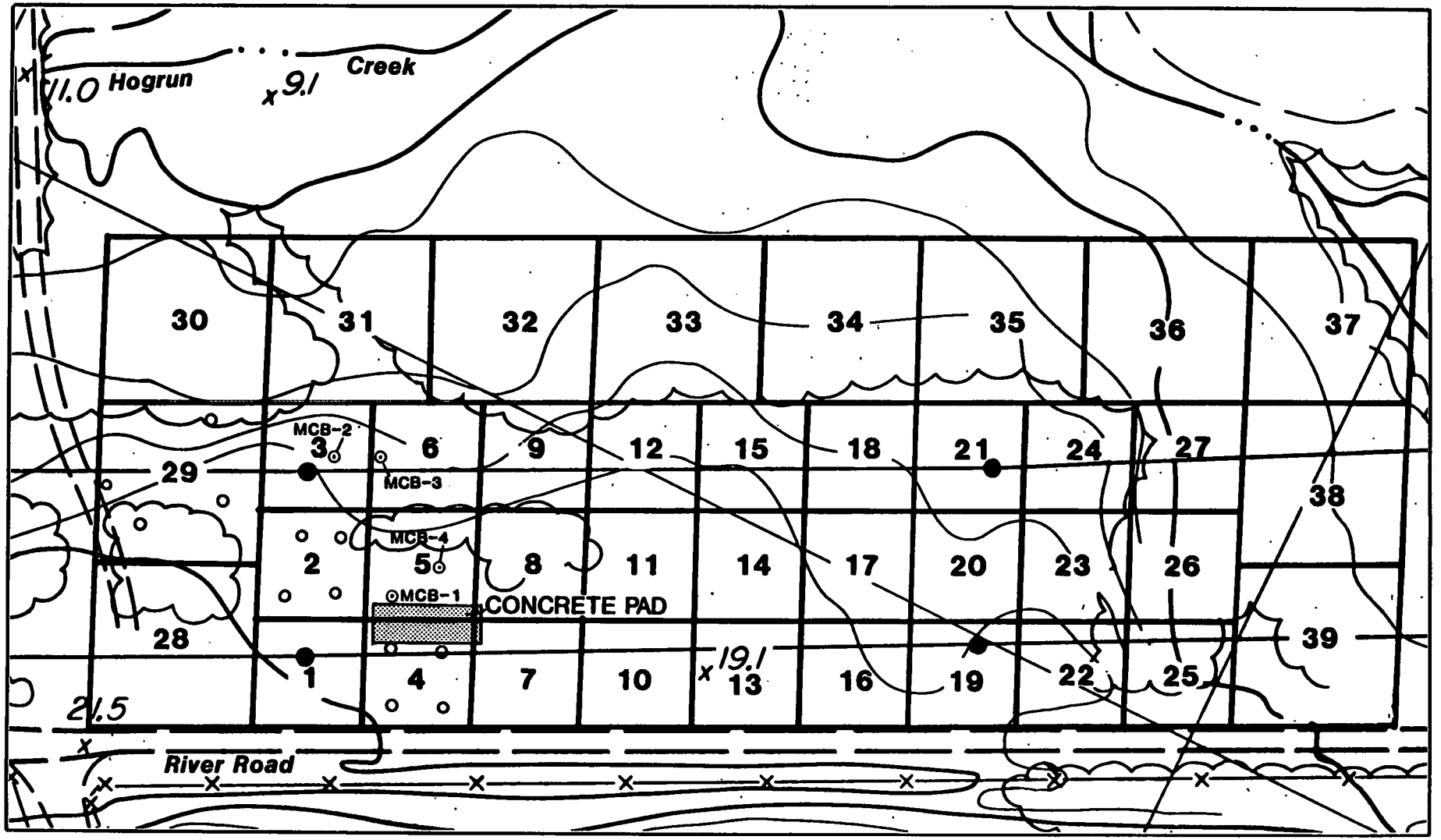
A control sample was collected from a distant location chosen at random and, in addition, a soil sample was collected from a lawn area just outside the main plant gate in August 1984. This sample was collected in order to determine if soil closer to the potential source of ethyl acrylate (i.e., the plant) was contaminated with the compound. A soil sample spiked with ethyl acrylate was prepared by Rohm and Haas and submitted to BCM for analysis.

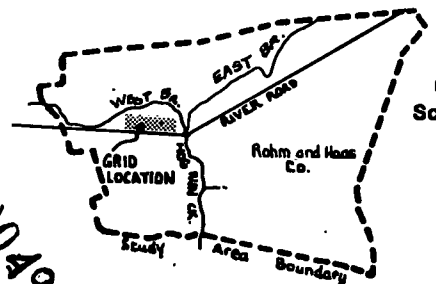
4.2.4 Findings and Conclusions

The principal findings and conclusions of the soil resampling project are as follows:

1. DDT and its metabolites are present in surface soil throughout most of the former BCMCC property. The greatest concentrations (60 ppm) appear in the southwest corner of the site in the vicinity of the concrete pad (grid nos. 2, 4, and 29).

2. Based on current Food and Drug Administration (FDA) tolerances (as administered by the EPA) for DDT and its metabolites in food intended for human consumption and in animal





Location Map

0 100 feet

Scale

N

BCM Project No. 00-4061-08

Legend

1 GRID DESIGNATION

O GRAB SAMPLE LOCATIONS IN SELECTED AREAS

⊙ SOIL BORING LOCATION-OCTOBER 1983

Figure 4-4

Rohm and Haas Company

MOSQUITO COMMISSION SITE

Bristol, Pennsylvania

GRID LAYOUT FOR SOIL ANALYSIS JUNE/JULY, 1984

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17

feed, the observed concentrations in the soil pose no threat to human health or the environment.

3. As an added precaution, the entire site should be left essentially undisturbed so that native vegetation can develop to its fullest extent. Larger trees toward the north should be cut and removed in order to encourage growth of brushy species which will further limit access to these wooded areas.

4. Site access should be further restricted from River Road through construction of a soil berm approximately 3 or 4 feet high along and parallel to River Road. This will effectively discourage the illegal refuse dumping by the public that has taken place on the site.

5. Independent analysis of the July 1984 samples has not confirmed the presence of ethyl acrylate in the samples collected.

6. The reported analytical data indicate that levels in the "background" (i.e., control) samples, from both the 1983 and 1984 sampling programs, were higher than most other sampled areas.

7. Therefore, the positive data reported for ethyl acrylate, both in the April 1984 report and from the July 1984 resampling effort, are likely to be false positives. The indicated concentrations of ethyl acrylate most probably do not occur in the soil.

8. No further consideration should be given to the ethyl acrylate issue in landfill perimeter area soil evaluations.

9. Based on the evaluation of soil conditions conducted in this study and the April 1984 report, the landfill does not present an imminent threat to human health or the environment. There is no contamination on the grounds of the Mary Devine School, adjacent ballfields, or along the northern perimeter of the landfill.

4.3 MAGNETIC SURVEY

4.3.1 Report Sequence

The results of the magnetic survey are reported in Volume III of the February 1985 reports.

000498

BCM

4.3.2 Objective

The objective of the magnetic survey was to locate buried ferromagnetic materials (e.g., metal drums) within, and in the vicinity of, the landfill.

4.3.3 Approach

The magnetic survey was conducted over 52 acres of landfilled area and 22 acres of adjacent area (see Figure 4-5) using a proton precession magnetometer. A grid system was established over the areas surveyed and measurements were taken along a series of parallel traverse lines and on reconnaissance traverses. Measurements of the total magnetic field were taken at 10-feet intervals on traverse lines. Traverse lines were separated by 50-feet intervals within grid systems.

Data taken in the field were transferred electronically from the magnetometer into BCM's mainframe computer. Data from traverse lines were plotted by computer as magnetic field profiles. Data from selected traverse lines were used to produce computer-plotted contour maps of the total magnetic field.

Spatial changes in the magnetic field (anomalies), which represented concentrations of ferromagnetic objects in the subsurface environment, were identified on traverse profiles and magnetic field contour maps. Survey grid areas were separated into strongly magnetic zones, weakly magnetic zones, and nonmagnetic zones, based on the occurrence of magnetic anomalies. Magnetic zones were delineated on a site plan of the landfill.

4.3.4 Findings and Conclusions

The principal findings and conclusions of the magnetic survey are as follows:

1. A summary of the magnetic survey findings is shown in Table 4-2. Approximately 25 percent of the grid areas are underlain by strongly magnetic zones indicating buried ferromagnetic material. A typical magnetic field contour map (Grid B) is shown in Figure 4-6.

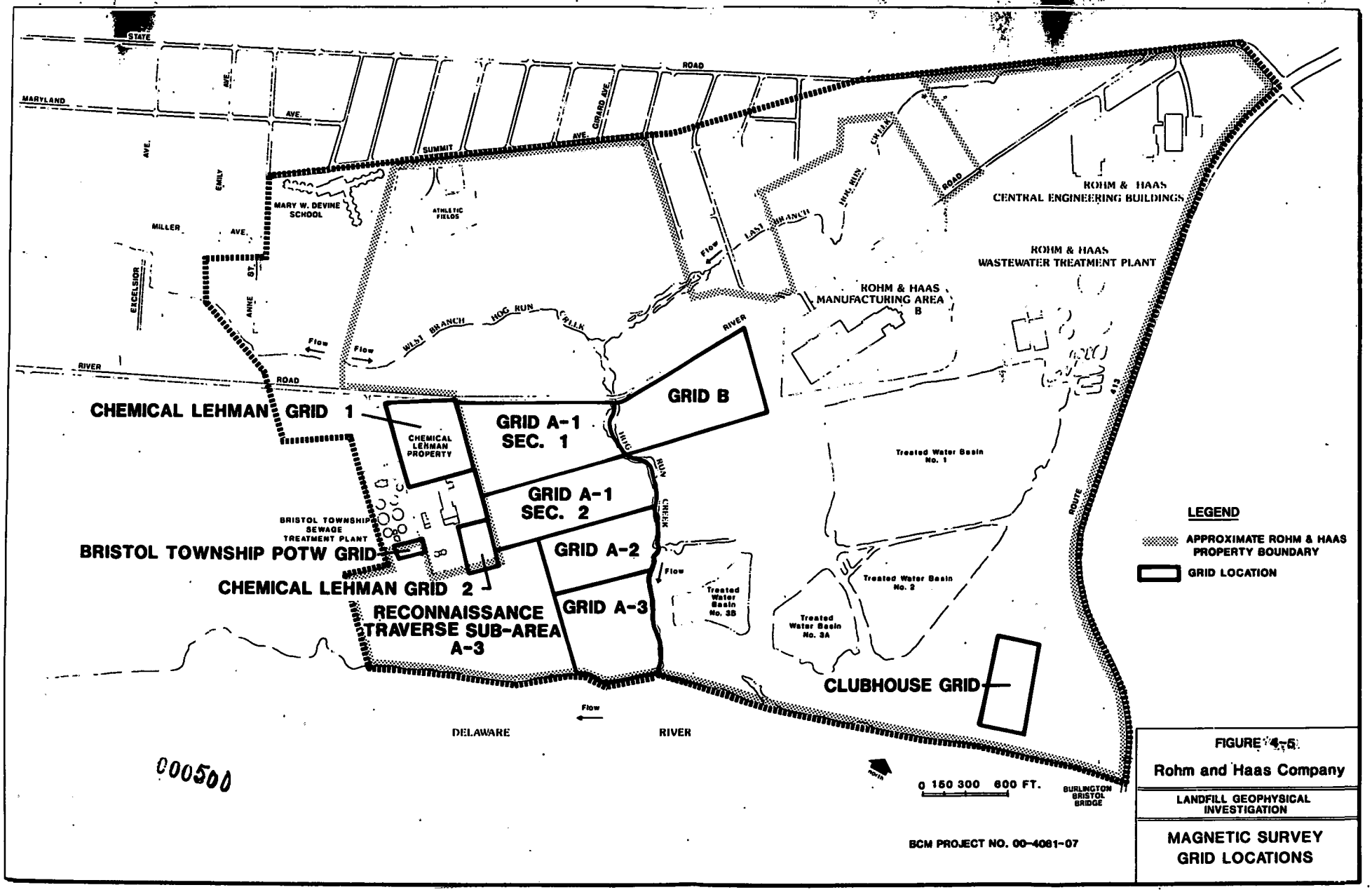
2. The depth to fill in all areas ranged from 2 to 12 feet, except for Grid A-2 where a magnetic zone was detected at 17 feet of depth.

4.4 TERRAIN CONDUCTIVITY SURVEY

4.4.1 Report Sequence

The results of the terrain conductivity survey project are reported in Volume IV of the February 1985 reports.

000499



000500

FIGURE 4-5

Rohm and Haas Company

LANDFILL GEOPHYSICAL INVESTIGATION

MAGNETIC SURVEY
GRID LOCATIONS

BCM PROJECT NO. 00-4061-07

BCM

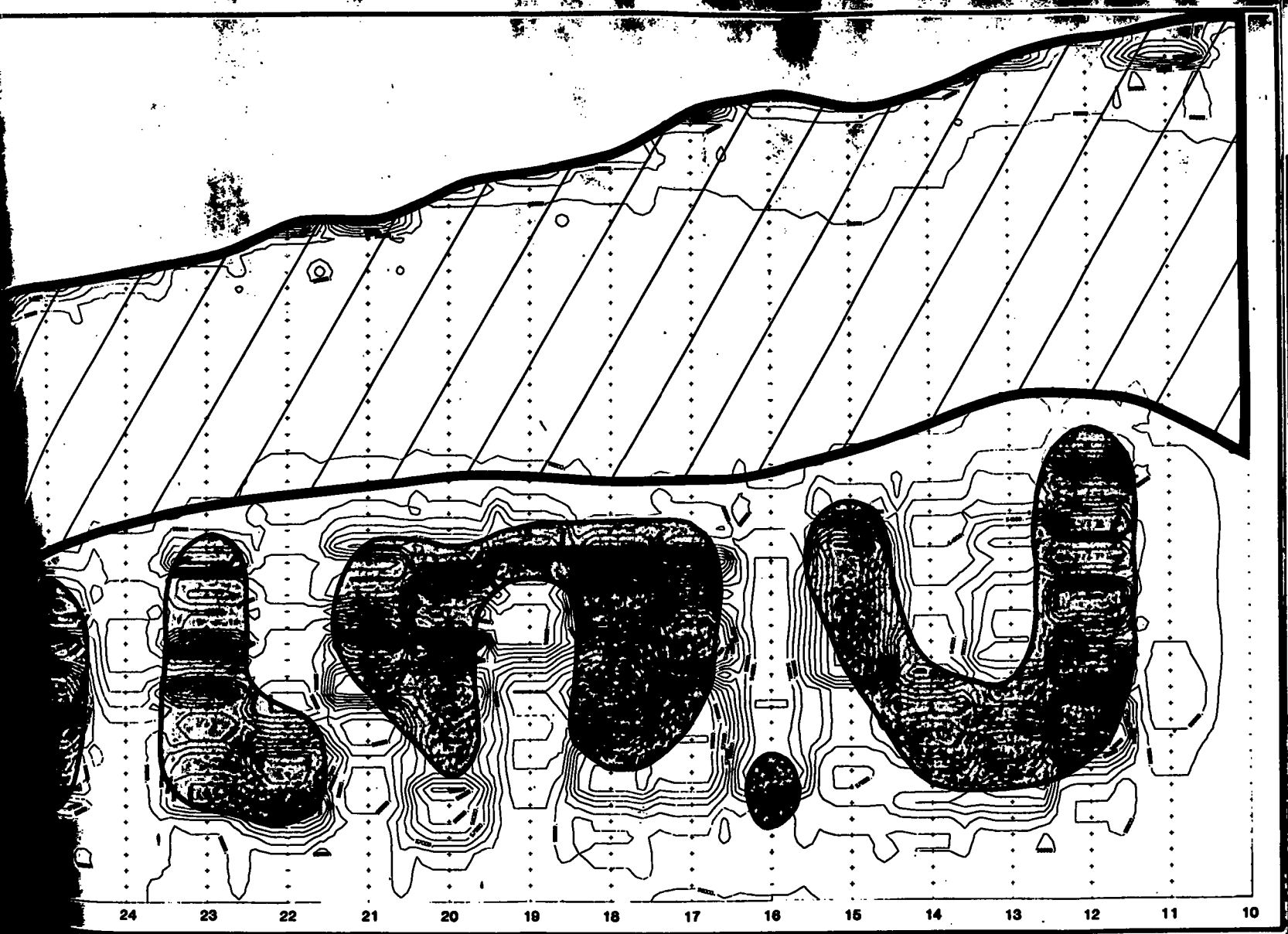
TABLE 4-2

SUMMARY OF MAGNETIC SURVEY

Grid	% Strongly Magnetic	% Weakly Magnetic	Typical Depth to Fill (Feet)
A-1, sec. 1	38	42	2 to 12
A-1, sec. 2	16	44	2 to 7
A-2	32	38	2 to 7
A-3	33	48	2 to 4
B	16	35	2 to 7
Clubhouse	None detected		
CL - Grid 1	8	20	2 to 7
CL - Grid 2	9	0	2 to 10
POTW	None detected		
Subarea A-3	None detected		

Source: BCM Eastern Inc.

000501



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LEGEND

- MEASUREMENT STATIONS
- 10 TRAVERSE LINE NUMBER
- MAGNETIC FIELD CONTOUR
- STRONGLY-MAGNETIC ZONE
- WEAKLY-MAGNETIC ZONE
- NON-MAGNETIC ZONE
- CONTOUR INTERVAL 500 GAMMAS

Feet
0 60

BCM PROJECT NO. 00-4061-07

BCM Engineers, Planners and Scientists

FIGURE 4-6 :
Rohm and Haas Company
LANDFILL GEOPHYSICAL INVESTIGATION
MAGNETIC FIELD CONTOUR MAP
GRID B

BCM

4.4.2 Objective

The objective of this survey was to identify possible effects of landfill wastes on the local groundwater system through the surface measurement of apparent terrain conductivity.

4.4.3 Approach

The terrain conductivity survey was conducted adjacent to known waste disposal areas and in an area of groundwater discharge adjacent to the west branch of Hog Run Creek. A direct-reading terrain conductivity instrument was used to make the measurements.

Measurements were conducted on a grid system established over the areas surveyed and along profile lines. Measurements within the grids were conducted at 50-feet and 100-feet intervals. Measurements along profile lines were conducted at 50-feet intervals (see Figure 4-7).

Contour maps of terrain conductivity were produced for grid systems at two separate depths of exploration. Two-dimensional graphs of conductivity variations by distance were produced for profile lines. Spatial changes in terrain conductivity (anomalies) were identified by examination of conductivity contour maps and conductivity profiles.

4.4.4 Findings and Conclusions

The principal findings and conclusions of the Terrain Conductivity Survey are as follows:

1. Conductivity in subarea D northwest of the Rohm and Haas wastewater treatment plant (WWTP) settling basins was elevated above natural (background) conditions. Areas of elevated conductivity correlated with areas where Rohm and Haas reported disposing of ammonium sulfate waste.

2. A gradient of elevated conductivity was identified extending to the north from the area of ammonium sulfate waste disposal. Conductivity data and correlations with existing groundwater quality data indicated a possible plume of dissolved electrolytes contained within the deeper portions of the saturated zone. This plume extended several hundred feet north of the ammonium sulfate waste disposal area.

3. Elevated conductivity within subarea B correlated with areas of the landfill where ferromagnetic material was suspected. This elevated conductivity may be the result of buried ferromagnetic material or dissolved electrolytes within the groundwater system.

000503

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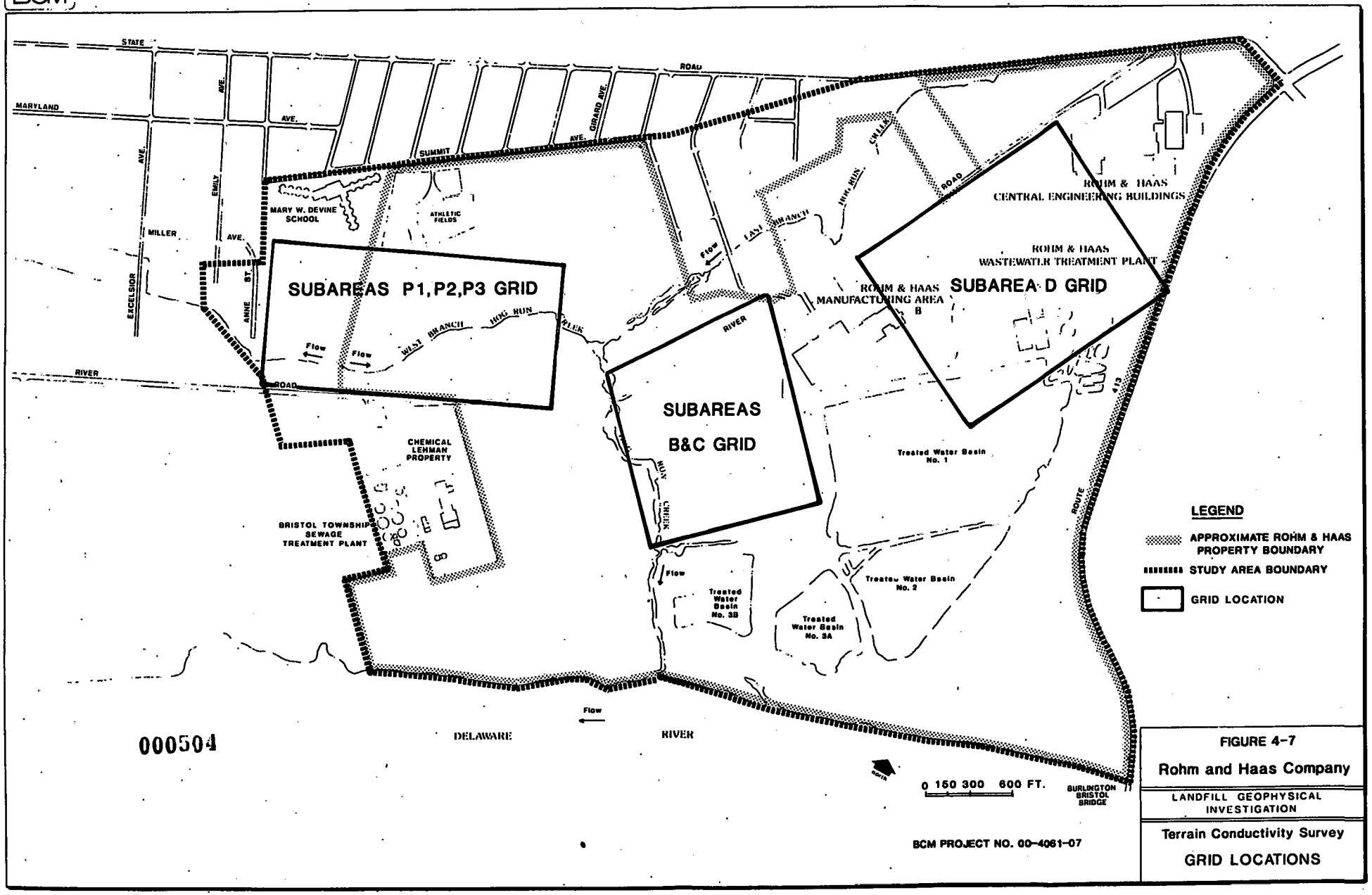


FIGURE 4-7

Rohm and Haas Company

LANDFILL GEOPHYSICAL INVESTIGATION

Terrain Conductivity Survey

GRID LOCATIONS

BCM PROJECT NO. 00-4061-07

4. An area of elevated conductivity was identified within subarea C. This elevated conductivity may represent the effect of dissolved electrolytes within the groundwater system or the effect of naturally occurring silts and clays.

5. Most profile lines within subareas P1, P2, and P3 did not exhibit areas of elevated conductivity. Slightly elevated conductivities were measured on the western portion of several profile lines. These conductivities correlated with areas where more highly conductive clays were identified in the subsurface strata. In addition, a nearby 36-inch public sewer line which bisects the western portion of the grid may also be contributing dissolved electrolytes through leakage to the groundwater system.

4.5 RADAR SURVEY

4.5.1 Report Sequence

The results of the Radar Survey are reported in Volume 5, Part 1 of the February 1985 report.

4.5.2 Objective

The objective of this survey was to characterize subsurface conditions at the landfill and to confirm and enlarge upon results of previously conducted geophysical surveys, i.e., a magnetic survey and a terrain conductivity survey.

4.5.3 Approach

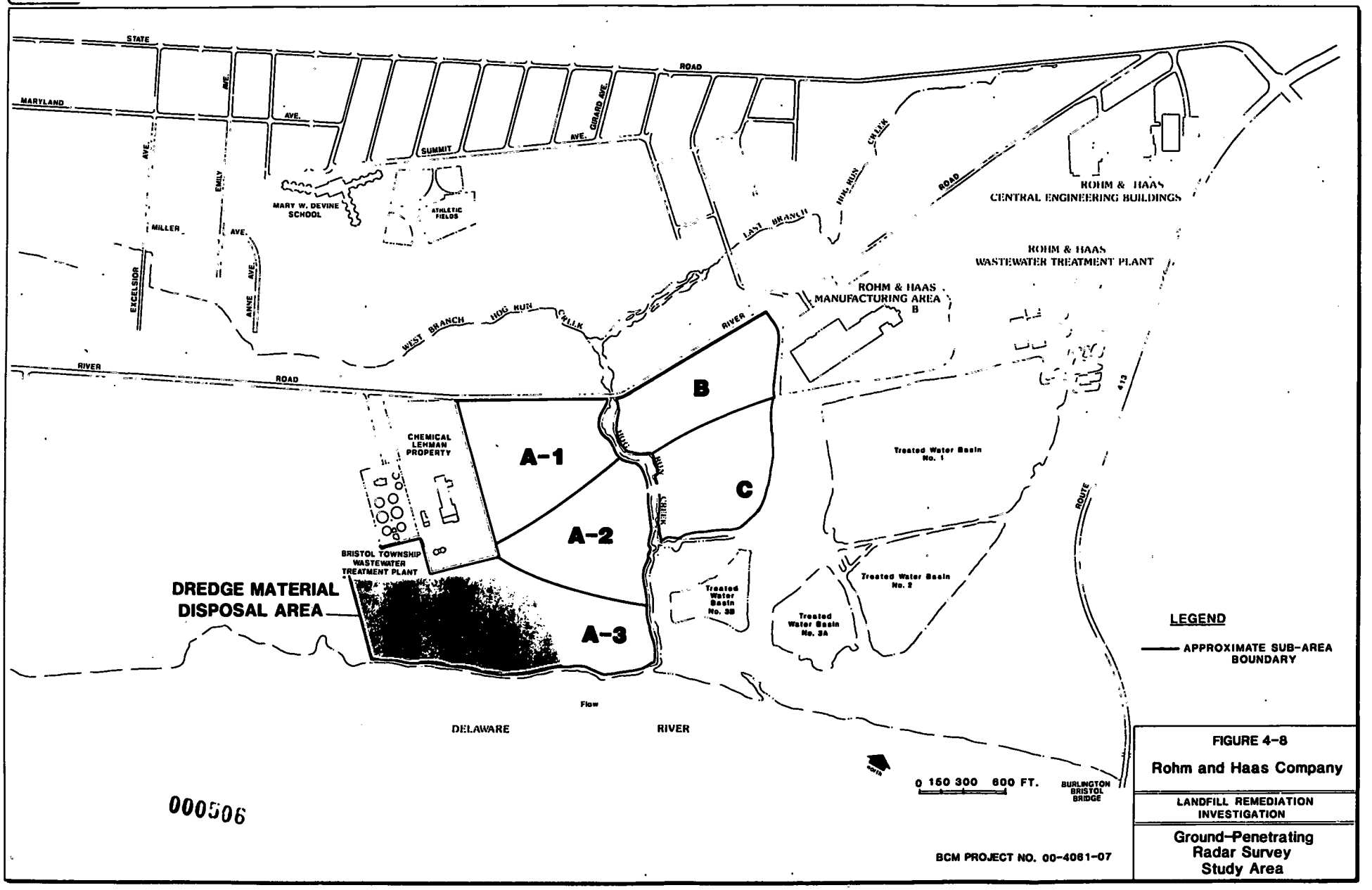
The radar survey was conducted for BCM Eastern Inc. (BCM) by Geosight of Pitman, New Jersey during the period from September 5 to September 12, 1984. The survey was conducted in landfill areas A2, A3, and B to supplement information obtained during a magnetic survey conducted by BCM during March, April, and May 1984 in those areas. Geosight also conducted an electromagnetic induction (terrain conductivity) survey in landfill areas A2, A3, and B to supplement information obtained during the magnetic and ground-penetrating radar surveys (see Figure 4-8).

4.5.4 Findings and Conclusions

1. The radar survey proved generally effective in delineating those areas in which the subsurface strata had not been disturbed or where sediments dredged from the Delaware River had been deposited. In other filled areas, the radar could not, in all cases, differentiate between disturbed soils and waste materials.

000505

BCM ers Planners and Scientists



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BCM PROJECT NO. 00-4061-07

FIGURE 4-8

Rohm and Haas Company

LANDFILL REMEDIATION INVESTIGATION

Ground-Penetrating Radar Survey Study Area

2. The radar detected complex subsurface strata, highly conductive zones, and buried metallic and nonmetallic objects within these landfill areas. The data confirm that these landfill areas contain buried waste materials and also confirmed the results of the magnetic survey.

3. The radar data better defined the location of the northeastern and southwestern boundaries of the waste trenches in landfill area B. Clean areas with little subsurface debris were detected on the northeast and southwest corners of this area. However, within the landfill, the radar did not distinguish between areas where subsurface metal was detected during the magnetic survey and possible clean areas between the trenches. The data may indicate that the entire area is capped by conductive materials which attenuate the radar signal, or that the entire area is randomly filled with wastes. Subsequent borings and wells constructed in this area between several suspected burial trenches did not detect buried waste materials.

4. The radar survey provided information beyond that found in the magnetic survey. Several areas of possible nonmagnetic waste were located.

4.6 CONFIRMATION TEST PITS

4.6.1 Report Sequence

The results of the Confirmation Test Pit investigation are reported in Volume V, Part 2 of the February 1985 reports.

4.6.2 Objectives

The objectives of the confirmation test pits were:

1. To support or confirm the findings reported as a result of the magnetic survey, terrain conductivity survey, and the radar survey

2. To determine the location of deposited waste materials with respect to the existing water table level

3. To characterize the soil/waste profile

4. To determine deposited waste boundaries

BCM

4.6.3 Approach

Fifty test pits were constructed during November 1984 using a backhoe capable of excavating to an overall depth of 16 feet. Debris from the pits was placed next to each pit for later backfilling. Clean fill and debris were stockpiled separately. All pits were backfilled prior to the end of each working day. In addition, clean fill was imported from a nearby dredged material basin to cover any pit where sufficient backfill material was not available. Each test pit was characterized by a BCM engineer/geologist prior to backfilling.

The test pits were constructed within anomalous areas detected by the magnetic survey, the terrain conductivity survey, and the ground-penetrating radar survey. In addition, several test pits were constructed on the perimeter of identified anomalous areas and within areas indicated as clean of landfill debris by the geophysical surveys. Test pit locations are depicted in Figure 4-9.

4.6.4 Findings and Conclusions

The principal findings and conclusions of the test pit investigation are as follows:

1. Eleven of the test pits were constructed within identified magnetic field anomalies. Included were test pits 1, 2, 18, 21, 22, 31, 32, 33, 34, 35, and 36. All but numbers 1 and 2 were dug within landfill area A. Each encountered miscellaneous waste and ferromagnetic debris including 55-gallon steel drums, steel drum lids, steel bases of fiber drums, wire, metal strapping, metal pipes, scrap metal, and miscellaneous scrap iron and steel materials. Test pits 1 and 2 were dug within landfill area B at locations of magnetic survey anomalies. These test pits encountered ferromagnetic material consisting mostly of 55-gallon steel drums.

2. Test pits 6, 39, 40, 41, 42, 43, and 44 were dug on the perimeter of identified magnetic survey anomalies or within areas identified as clean of ferromagnetic debris. Test pits 39, 40, 41, 43, and 44 were constructed within the dredged material disposal area adjacent to landfill area A. These test pits encountered layered gravels, sands, silts, and peats. A magnetic reconnaissance survey of this area had indicated that the subsurface was clean of ferromagnetic debris.

   Test pit 42 was dug within an identified nonmagnetic zone within landfill area A and encountered layers of sand and

000508

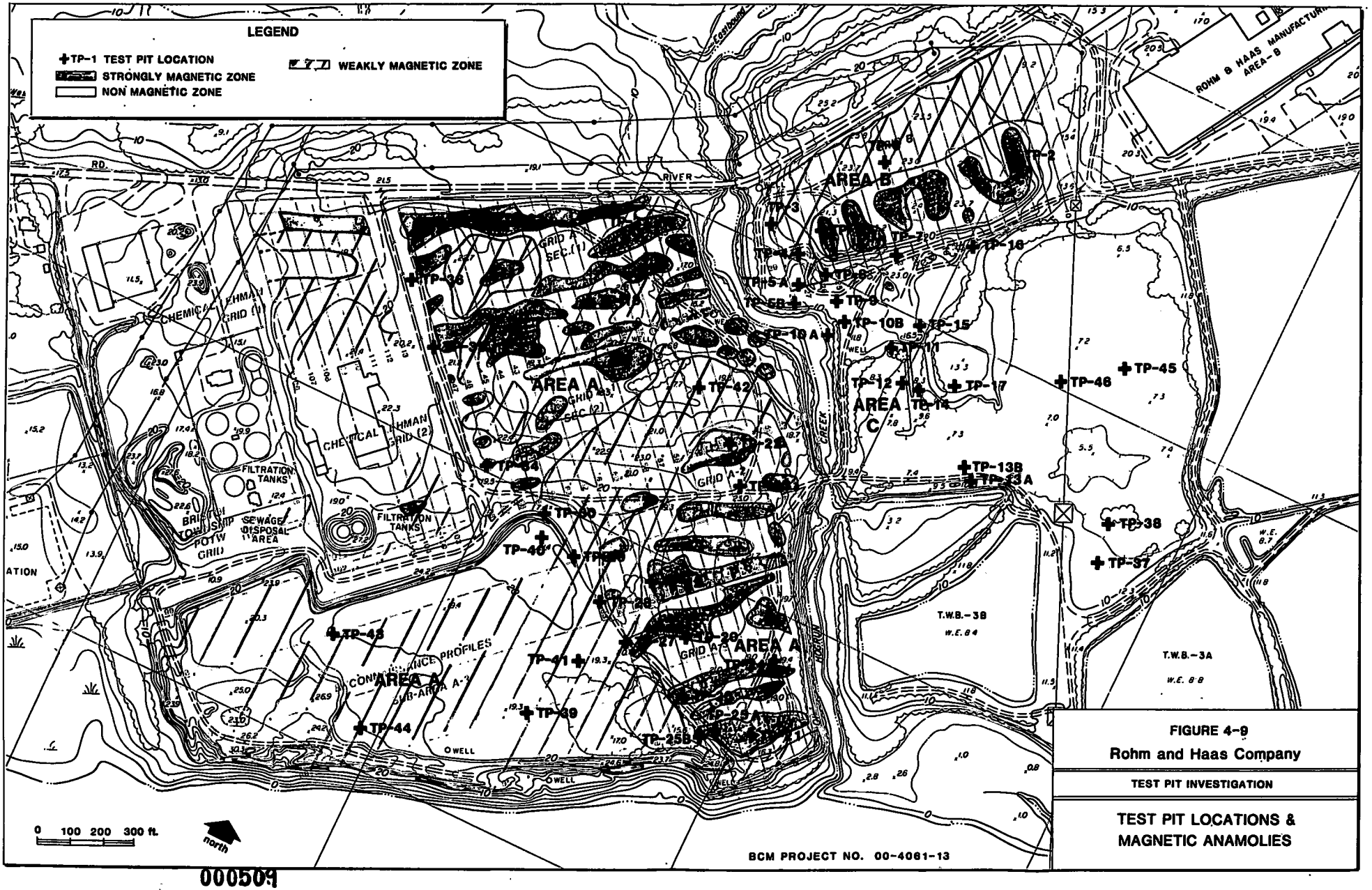

FIGURE 4-9

Rohm and Haas Company

TEST PIT INVESTIGATION

TEST PIT LOCATIONS & MAGNETIC ANAMOLIES

000509

gravel. Test pit 6 was dug within landfill area B in an area identified during the magnetic survey as a nonmagnetic zone and encountered silty sand and silty sandy gravel with cobbles.

3. Four test pits (3, 4, 11, and 12) were constructed within landfill areas B and C within identified terrain conductivity anomalies. Test pits 3 and 4 were constructed within landfill area B and encountered silty sand, gravel, and cobbles.

4. Test pits 11 and 12 were constructed within landfill area C in areas of identified elevated conductivity. Both of these test pits encountered sand and gravel.

5. Two test pits (23 and 24) were dug within identified ground-penetrating radar anomalies. Test pit 23 encountered layers of sand, gravel, and cobbles to a depth of 15 feet. The gravel or cobble layers are the probable subsurface reflector which indicated planar strata to the ground-penetrating radar.

   Test pit 24 encountered waste material within the interval from 1 to 13 feet below land surface consisting of molding powder, scrap plastic debris, plastic sheets, plastic pipes, wood, and paper.

6. Two test pits (19 and 20) were dug within areas identified as containing anomalies common to both the magnetic and ground-penetrating radar surveys. Test pit 19 encountered eight crushed 55-gallon steel drums as well as trickling filter sludge and plastic bags of white powder.

   Test pit 20 encountered buried debris within the interval from 2.5 to 10.5 feet below land surface, including plastic waste, paper bags, strands of plastic, wood waste, and four 55-gallon steel drums.

7. Eighteen test pits were constructed along landfill boundaries as determined by visual observations. The purpose of these test pits was to determine if these visual observations were correct. In addition, several test pits were constructed in areas adjacent to the landfill where wastes were not known or did not appear to be deposited to verify the historical and visual information.

000510

8. Six test pits were constructed in an area south of landfill area B. The purpose of these pits was to attempt to locate a thin subsurface layer of emulsion material which had been reported by Rohm and Haas. In test pit 10B an approximately 2-inch layer of emulsion material at a depth of about 4 feet 6 inches was detected. The material appeared to be viscous in nature; however, no movement into the test pit was observed.

4.7 AIR QUALITY STUDY

4.7.1 Report Sequence

The results of the air quality study are reported in Volume VI of the February 1985 reports The report presents the results of all data collected since the initiation of the study, including those data discussed in the April 1984 report.

4.7.2 Objective

The objective of the air quality study is to determine whether organic vapors are being discharged from the surface of the landfill area and, if so, whether they have a significant effect on air quality above the landfill itself or in the surrounding environment.

4.7.3 Approach

The landfill was separated into an approximately 200-foot square grid system. Grid lines were oriented in roughly north-south and east-west directions, with each grid being assigned a number. This grid arrangement was then used to record sampling locations on the landfill (see Figure 4-10).

Six perimeter sampling location stations were also established. These stations are located approximately 60 degrees apart from the center of the landfill. The location of these stations allows for both an upwind and downwind sampling location on a given day and are shown on Figure 4-11.

Based on the Bristol plant manufacturing history, an initial list of 11 target organic compounds was compiled as shown in Table 4-3. Air quality guidelines as promulgated by the Philadelphia Department of Public Health, Air Management Service (AMS) Regulation VI entitled, "Control of Emissions of Toxic Air Contaminants," were used to determine the significance of the concentrations detected.

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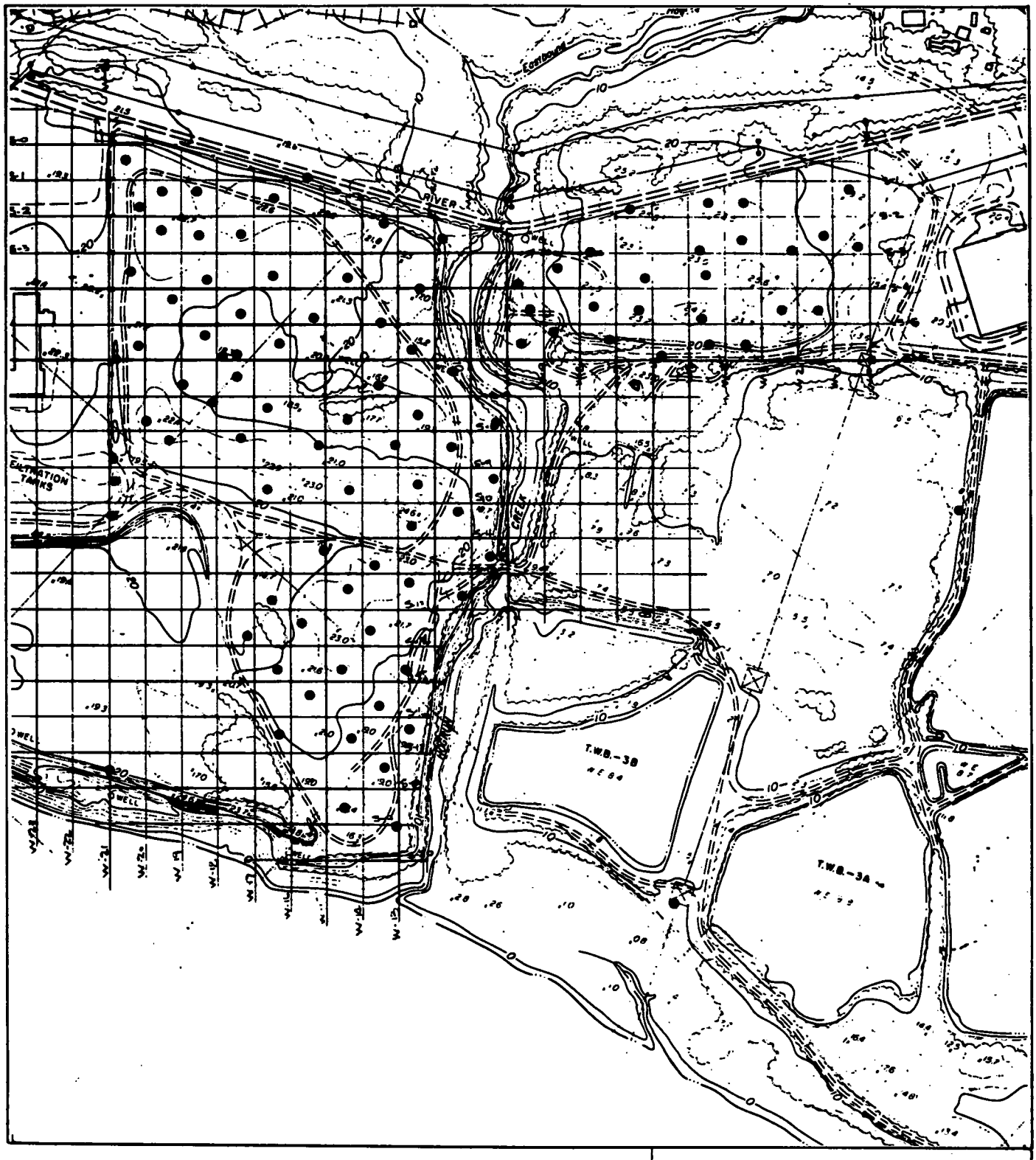

LEGEND

- APPROXIMATE GRID SAMPLE POINTS

0 100 200 400 ft.

north

FIGURE 4-10
Rohm and Haas Company

LANDFILL INVESTIGATION

TAGA Grid Air Sampling Locations

June/July 1984

000512 32

BCM PROJECT NO. 00-4061-03

BCM

TABLE 4-3

LIST OF ORGANIC TARGET COMPOUNDS FOR AIR SURVEY

Compound	Significant Limit* (ppb)
Methyl acrylate	24
Ethyl acrylate	12
Butyl acrylate	24
Acrylonitrile	5
Toluene	235
Styrene	120
Xylene	235
Methyl ethyl ketone (MEK)	475
Benzene	24
Trichloroethylene (TCE)	1200
Ethylene dichloride (EDC, 1,2-dichloroethane)	40

*AMS guidelines

Source: BCM Eastern Inc.; Project No. 00-4061-03

000513

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000514

Personnel sampling pumps were utilized to sample the ambient air at the six perimeter locations. Activated charcoal was the selected adsorbing medium based on EPA task work on the determination of organics in air and a literature search performed by BCM personnel.

The TRC Trace atmospheric Gas Analyzer (TAGA) 6000 system was used on January 9 and 10, 1984, to conduct both grid and perimeter sampling. The grab samples for the grid areas were collected utilizing a sealed bucket with Tedlar bag enclosed. An air sample was drawn through a funnel placed directly on the soil and connected to a bulkhead fitting by a Teflon line.

Samples of ambient air taken during the perimeter sampling phase of the TAGA visits were drawn in through the roof sampling inlet. During the TAGA visit, the analyses for all 11 target compounds were completed for all samples. A general screen of parent ions was performed on each sample to give any indication of the presence of significant quantities of nontarget compounds.

The TAGA was mass calibrated daily to ensure that the instrument was properly tuned and parameters had been optimized. This was followed by an instrument calibration (Method Calibration) for each of the target compounds. Finally, blanks were run in order to eliminate instrument and equipment contributions (Matrix Calibration) to observed levels for the target compounds. The blanks of the Tedlar bags and the upwind samples gave no sign of equipment-related interference.

The TAGA system performed a second program in June 1984 and completed both perimeter and grid location sampling. This program was more complete (more grid points were sampled) due to better weather (snow cover prevented a complete January program). Identical internal calibration procedures as described above were completed during the second program and the results, again, indicated no signs of equipment related interference. In addition, spiked samples were introduced to the program by BCM to be used as quality control checks.

4.7.4 Findings and Conclusions

1. The rate at which the organics enter the ambient air is such that the concentrations of target compounds were not found to exist above the significant levels as determined by the AMS guidelines at the perimeter of the landfill.

2. Several landfill surface samples were found to contain concentrations of butyl acrylate, ethyl acrylate, and benzene above the AMS guidelines. Other surface samples were found to contain toluene, methyl ethyl ketone, methyl acrylate, and xylenes but below the AMS guidelines.

000515

3. The benzene levels detected in the landfill grid samples compare reasonably to benzene levels detected during AMS ambient sampling programs. The AMS programs have been conducted in and around the Philadelphia area. Analytical results of AMS programs indicate an average benzene level of 2 to 3 ppb with maximums at 8 to 10 ppb. These levels were 24-hour averages but still compare favorably with the benzene data determined during the landfill study.

4. Acrylonitrile was detected but appeared to be due to soil moisture collecting in the grid sample bags during the samplings. Moisture is an interferent and positive identification and confirmation of the presence of acrylonitrile cannot be established.

5. A comparison of the onsite perimeter sampling location data with soil surface emissions data indicate that dispersion of landfill emissions is occurring, since all values were well below detectable limits at the landfill perimeter.

6. The quality of the air in the surrounding community is not effected by the presence of the landfill.

FINAL REPORT
ON
LANDFILL WATER RESAMPLING

PREPARED FOR

ROHM AND HAAS COMPANY
BRISTOL, PENNSYLVANIA

J.4

BCM PROJECT NO. 00-4061-06

FEBRUARY 1985

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BCM EASTERN INC.
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TABLE G-2

SURFACE WATER AND SEDIMENT SAMPLING STATION IDENTIFICATION KEY

New Designation	Previous Designation	New Designation	Previous Designation
DRU-1.7	DRW-2	HRE-4560	None
DRU-9.5	DRW-1	HRE-5320	None
DRD-0.3	DRSP-1	HRE-6640	None
DRD-1.5	DRW-3		
		HRW-2760	HRW-2
HRM-0210	HRW-7	HRW-3510	WBHRC-2
HRM-0215	HRSD-3	HRW-3610	None
HRM-0560	HRW-8	HRW-3800	WBHRC-3
HRM-0720	HRSP-3	HRW-4030	WBHRC-1
HRM-0930	HRSP-2	HRW-4031	None
HRM-1110	HRW-6	HRW-4320	WBHRC-4
HRM-1370	HRW-5	HRW-4470	WBHRC-5
HRM-1620	HRSD-2		
HRM-1970	HRSP-1	UNB-0360	UNB-3
HRM-2160	HRW-3	UNB-0560	UNB-2
HRM-2170	HRSD-1	UNB-0730	UNB-1
HRT-2730	HRW-4		
		TWB-3B	None
HRE-2890	HRW-1		
HRE-3650	None		
HRE-3980	HRSP-4		
HRE-4060	HRSD-4		

Source: BCM Eastern Inc. (Project No. 00-4061-06)

LANDFILL SURFACE WATER AND SEDIMENT SAMPLING STATIONS

Sample ID	Location and Type
	DELAWARE RIVER
DRU-9.5	Channel flow from Delaware River - approximately 9.5 miles upriver from confluence with Hog Run just above Trenton Falls
DRU-1.7	Channel flow from Delaware River - approximately 1.7 miles upriver from confluence with Hog Run at the Bristol, Pennsylvania Fish Commission Access Area
DRD-0.3	Seep from Delaware River bank - approximately 0.3 miles downstream from confluence of Hog Run Creek and the Delaware River - near monitoring wells LF-6-26 and LF-6-55
DRD-1.5	Channel flow from Delaware River - approximately 1.5 miles downriver from confluence with Hog Run Creek at the Croydon Marina off River Road
	TIDAL PORTION HOG RUN CREEK
HRM-0210	Channel flow from tidal portion of Hog Run Creek - approximately 210 feet upstream of the Delaware River
HRM-0215	Bottom sediment (sandy) from tidal portion of Hog Run Creek - approximately 215 feet upstream of the Delaware River
HRM-0560	Channel flow from midstream tidal portion of Hog Run Creek - approximately 560 feet upstream of the Delaware River
HRM-0720	Seep composite from west bank of the tidal portion of Hog Run Creek - approximately 720 feet upstream of the Delaware River and approximately 200 feet downstream of well cluster LF-3
HRM-0930	Seep composite from west bank of the tidal portion of Hog Run Creek - approximately 930 feet upstream from the Delaware River and adjacent to well cluster LF-3
HRM-1110	Channel flow from the tidal portion of Hog Run Creek - approximately 1,110 feet upstream from the Delaware River on the upstream side of the culvert beneath the bridge in landfill

TABLE 3
LANDFILL SURFACE WATER AND SEDIMENT SAMPLING STATIONS

Sample ID	Location and Type
HRM-1370	Channel flow from east side of channel of the tidal portion of Hog Run Creek - approximately 1,370 feet upstream from the Delaware River adjacent to monitoring well CR-10-27
HRM-1620	Bottom sediment (organic muck) at the bend in the tidal portion of Hog Run Creek - approximately 1,620 feet upstream from the Delaware River and adjacent to monitoring well CR-9-25
HRM-1970	Seep composite from east bank of the tidal portion of Hog Run Creek - approximately 1,970 feet upstream from the Delaware River adjacent to monitoring well CR-8-17
HRM-2160	Channel flow from the tidal portion of Hog Run Creek - approximately 2,160 feet upstream from the Delaware River on upstream side of the River Road culvert
HRM-2170	Bottom sediment from the tidal portion of Hog Run Creek - approximately 2,170 feet upstream from the Delaware River on upstream side of the River Road culvert
	EAST BRANCH HOG RUN CREEK
HRE-2890	Channel flow from the east branch of Hog Run Creek - approximately 2,890 feet upstream from the Delaware River - about 150 feet upstream from ponding at the confluence of the east and west branches of Hog Run Creek
HRE-3650	Channel flow from the east branch of Hog Run Creek - approximately 3,650 feet upstream from the Delaware River on upstream side of the Oak Avenue culvert
HRE-3980	Bottom sediment (sand and muck) from midstream of the east branch of Hog Run Creek - approximately 3,980 feet upstream from the Delaware River - approximately 200 feet southeast of well cluster CR-19
HRE-4060	Seep from north bank of the east branch of Hog Run Creek - approximately 4,060 feet upstream from the Delaware River
HRE-4560	Channel flow just below 90 bend in the east branch of Hog Run Creek - approximately 4,560 feet upstream from the Delaware River

TABLE 3
LANDFILL SURFACE WATER AND SEDIMENT SAMPLING STATIONS

Sample ID	Location and Type
HRE-5320	Channel flow from east branch Hog Run Creek culvert pipe beneath power lines - approximately 5,320 feet upstream from the Delaware River
HRE-6640	Channel flow from near headwaters of the east branch of Hog Run Creek - approximately 6,640 feet upstream from the Delaware River - at upstream side of the State Road culvert
	WEST BRANCH HOG RUN CREEK
HRW-2760	Channel flow 75 feet downstream of minor tributary to the west branch of Hog Run Creek - approximately 2,760 feet upstream from the Delaware River
HRW-3510	Channel flow from the west branch of Hog Run Creek - approximately 3,510 feet upstream from the Delaware River
HRW-3610	Channel flow from the west branch of Hog Run Creek - approximately 3,610 feet upstream from the Delaware River - on downstream side of bridge on dirt road running through woods from River Road (opposite Chemical Leaman) to the athletic fields (adjacent to the Mary Devine School)
HRW-3800	Seep from south bank of the west branch of Hog Run Creek - approximately 3,800 feet upstream from the Delaware River - 180 feet upstream from the bridge on the woods dirt road
HRW-4030	Seep from the south bank of the west branch of Hog Run Creek - approximately 4,030 feet upstream from the Delaware River
HRW-4031	Bottom sediment (muck) from the west branch of Hog Run Creek at essentially the same location as sample HRW-4030
HRW-4320	Seep from the south bank of the west branch of Hog Run Creek - approximately 4,320 feet upstream from the Delaware River north of River Road opposite the Bristol Township Sewage Treatment Plant
HRW-4470	Channel flow at the extreme west end (headwater) of the west branch of Hog Run Creek - approximately 4,470 feet upstream from the Delaware River

TABLE 3
LANDFILL SURFACE WATER AND SEDIMENT SAMPLING STATIONS

Sample ID	Location and Type
	UNNAMED BRANCH
UNB-0360	Channel flow in unnamed branch - approximately 360 feet downstream from the drainage divide between the west branch of Hog Run Creek and the westward flowing unnamed branch
UNB-0560	Seep from south bank of unnamed branch - approximately 560 feet downstream from the drainage divide
UNB-0730	Seep discharge and channel flow from the north bank of unnamed branch - approximately 730 feet downstream from the drainage divide - due southwest of the southern terminus of Anne Street
	TREATED WATER BASIN
TWB-3B	Basin effluent at discharge weir for Rohm and Haas Treated Water Basin-3B
	TRENCH ALONG NORTH SIDE OF LANDFILL
HRT-2730	Standing water from trench along the northern perimeter of the landfill

Source: BCM Eastern Inc. (BCM Project No. 00-4061-06)

BCM

TABLE 4

LANDFILL GROUNDWATER ELEVATIONS
(Feet above Mean Sea Level)

Well	05/03/84	06/07/84	07/02/84	08/08/84	09/06/84	10/02/84
CR-1-22	11.26	11.36	10.10	9.88	8.23	8.53
CR-1-50	11.29	11.50	10.33	9.97	9.29	8.76
CR-2-27	10.71	10.88	9.65	9.34	8.65	7.96
CR-3-22	11.05	11.07	10.28	10.10	8.19	7.94
CR-3-45	11.08	11.13	10.19	9.97	8.16	8.49
CR-3-70	11.35	11.45	10.53	10.34	8.51	8.93
CR-4-20	11.32	11.48	10.39	10.32	8.41	8.89
CR-4-50	11.51	11.62	10.47	10.46	8.61	9.20
CR-4-90	11.83	11.90	11.00	10.77	9.04	9.50
CR-5-27	10.54	10.61	9.89	9.94	8.19	8.99
CR-6-20	10.40	10.61	9.46	9.58	7.85	8.65
CR-7-20	8.04	8.91	7.18	7.56	5.82	6.45
CR-8-17	6.69	6.96	6.34	6.27	4.98	5.84
CR-9-25	7.19	7.43	6.51	6.60	5.15	5.96
CR-10-27	4.34	4.68	4.16	3.88	2.62	3.72
CR-11-16	4.74	5.09	4.32	4.63	2.78	3.86
CR-12-20	4.23	5.18	3.81	3.59	2.89	3.46
CR-12-40	4.25	5.17	3.83	3.22	2.91	3.56
CR-13-18	3.48	3.83	2.58	2.98	1.15	2.14
CR-13-32	4.51	4.83	3.57	3.93	2.21	3.12
CR-14-23	4.54	4.87	3.54	3.90	2.14	3.04
CR-15-13	4.56	4.70	3.49	3.92	2.08	3.13
CR-16-28	5.05	4.96	4.13	4.27	2.71	3.65
CR-17-29	10.09	10.25	9.09	8.95	7.26	7.64
CR-18-55	12.26	12.60	11.73	11.58	10.09	10.74
CR-19-15	10.07	10.16	11.13	9.75	8.50	10.08
CR-19-37	>11.92*	>11.92*	10.35	11.37	9.79	9.87
CR-20-22	10.29	10.45	9.26	9.20	8.18	7.78
CR-20-38	11.39	11.47	10.41	10.27	8.39	8.74
CR-21-17	11.44	11.49	10.47	10.47	8.48	9.44
CR-21-27	11.52	11.62	10.76	10.65	8.88	9.28
CR-21-38	11.58	11.81	10.75	10.65	8.92	9.50
CR-22-18	11.21	11.17	10.41	10.20	8.36	9.12

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TABLE 4
LANDFILL GROUNDWATER ELEVATIONS
(Feet above Mean Sea Level)

Well	05/03/84	06/07/84	07/02/84	08/08/84	09/06/84	10/02/84
LF-1-25	11.54	11.68	10.59	10.96	8.96	9.41
LF-2-12	10.55	10.53	9.83	9.76	8.35	8.83
LF-3-26	6.68	6.88	6.57	6.41	5.17	5.91
LF-3-50	3.15	4.43	2.93	5.84	2.36	2.49
LF-4-21	4.63	NM**	4.30	3.96	2.87	3.72
LF-5-25	0.40	4.66	0.43	3.49	2.4	0.26
LF-6-26	8.27	8.37	5.87	7.93	6.92	4.22
LF-6-55	-0.27	4.58	-0.36	3.34	2.11	-0.64
LF-7-30	8.16	7.31	6.78	6.83	5.32	6.14
LF-8-18	9.23	9.42	6.06	9.15	7.26	8.13
LF-9-20	10.25	10.37	9.71	10.31	8.68	9.36
LF-10-20	10.98	14.47	10.10	15.46	8.71	9.32
LF-11-20	10.11	10.16	9.52	9.78	7.87	9.04
LF-12-13	9.72	9.93	8.65	8.95	7.24	8.00
LF-13-18	11.26	11.48	10.61	10.55	9.03	9.78
LF-13-43	12.20	12.39	11.36	11.28	9.60	10.28
LF-14-20	12.99	12.40	11.18	11.15	9.41	9.95
LF-15-26	11.04	11.30	10.43	10.44	8.65	9.45
LF-15-37	11.10	11.37	10.76	10.50	8.79	9.52
LF-16-37	10.05	10.07	9.55	9.58	8.06	8.95
LF-17-18	10.99	10.73	9.71	10.23	7.92	9.10
LF-18-15	11.63	11.90	10.70	11.20	8.65	9.75
LF-19-18	11.62	12.02	10.71	11.25	9.19	9.73
LF-20-22	11.82	12.26	10.89	11.41	9.39	9.78
Piezometer						
P-1	11.01	10.28	10.10	9.83	8.09	8.58
P-2	10.76	10.74	10.68	10.52	9.43	10.58
P-3	11.32	11.70	10.58	11.10	9.04	9.67
P-4	12.49	12.67	10.98	13.18	9.71	10.10
P-5	12.70	16.10	11.81	11.68	9.93	10.41
P-6	10.86	11.40	10.26	10.14	8.30	8.73
P-7	7.12	7.44	6.59	6.63	NM**	NM**

* Flowing artesian conditions
** NM = Not Measured

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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TABLE 5

SUMMARY OF PROPOSED AMMONIA CRITERIA EXCEEDENCE
HOG RUN CREEK AND THE DELAWARE RIVER
(Samples Taken at Slack Low Tide)

Station	November 1983			May 1984		
	NH_3-N (mg/l)	Exceedance of Maximum Allowable Criteria		NH_3-N (mg/l)	Exceedance of Maximum Allowable Criteria	
		Instantaneous	PA Proposed		Instantaneous	PA Propose
DRU-1.7	0.20			0.16		
DRU-9.5	0.08			0.07		
DRD-1.5	0.26			0.20		
HRM-0210	7.00	X	XXX	3.95	XXX	XXX
HRM-0560	NS			2.30	XXX	XX
HRM-1110	3.60			4.35		
HRM-1370	3.80			4.00		
HRM-2160	2.75			1.80		
HRT-2730	<0.05			NS		
HRE-2890	0.19			0.55		
HRE-3650	NS			0.20		
HRE-4560	NS			0.20		
HRE-5320	NS			0.10		
HRE-6640	NS			<0.05		
HRW-2760	0.19			0.65		
HRW-3510	1.75			NS		
HRW-3610	NS			2.55		
HRW-4470	<0.05			<0.05		

* See Figure 3 for a map of station locations
NS = Not sampled
X = Less than 2 times standard
XX = 2 to 3 times standard
XXX = More than 3 times standard

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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TABLE 6

ESTIMATED RATE OF AMMONIA DISCHARGE
TO HOG RUN CREEK AND THE DELAWARE RIVER
MAY 1984

Stream Segment	Monitoring Wells Used	Mean Concentration (mg/l)	Estimated Groundwater Flow Range (gpd)	Ammonia Discharge Range (pounds per day)
West Branch Hog Run Creek	LF-10-20, LF-11-20, LF-12-13	101.7	6,900 - 36,300	5.8 - 31
East Branch Hog Run Creek	CR-7-20, CR-21-17, CR-21-27, CR-21-38, CR-22-18	0.1	16,100 - 69,600	0 - 0
West Bank Hog Run Creek	LF-2-12, LF-3-26, CF-3-50	93.2	16,500 - 32,300	13 - 25
East Bank Hog Run Creek	CR-8-18, CR-9-25, CR-10-27, CR-11-16	7.0	15,100 - 46,900	1 - 3
Delaware River West of Hog Run Creek	LF-4-21, LF-5-25, LF-6-26, LF-6-55, LF-7-30	43.5	30,300 - 68,000	11 - 25
Delaware River East of Hog Run Creek	CR-2-27, CR-12-20, CR-12-40, CR-13-8, CR-13-32, CR-14-23, CR-16-28, CR-17-29	40.0	125,100 - 251,000	42 - 84
		TOTALS	210,000 - 504,100	73 - 168

Source: BCM Eastern Inc. (Project No. 00-4061-06)

TABLE 7

ESTIMATED RATE OF COD DISCHARGE TO HOG RUN CREEK
AND THE DELAWARE RIVER
MAY 1984

Stream Segment	Monitoring Wells Used	COD Mean Concentration (mg/l)	Estimated Groundwater Flow Range (gpd)	COD Mass Load Range (pounds per day)
West Branch of Hog Run Creek	LF-10-20, LF-11-20, LF-12-13	180.7	6,900 - 36,300	10 - 55
Each Branch of Hog Run Creek	CR-7-20, CR-21-17, CR-21-27, CR-21-38 CR-22-18	45.0	16,100 - 69,600	6 - 26
West Bank of Hog Run Creek	LF-2-12, LF-3-26, LF-3-50	141.0	16,500 - 32,300	19 - 38
East Bank of Hog Run Creek	CR-8-18, CR-9-25, CR-10-27, CR-11-16	75.3	15,100 - 46,900	10 - 29
Delaware River West of Hog Run Creek	LF-4-21, LF-5-25, LF-6-25, LF-6-55, LF-7-30	79.6	30,300 - 68,000	20 - 45
Delaware River East of Hog Run Creek	CR-2-27, CR-12-20, CR-12-40, CR-13-18, CR-13-32, CR-14-23 CR-16-28, CR-17-29	72.5	125,100 - 251,000	76 - 152
		TOTALS	210,009 - 504,000	141 - 345

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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TABLE 8

ESTIMATED RATE OF ORGANIC PRIORITY POLLUTANT AND CATEGORY COMPOUND DISCHARGE TO HOG RUN CREEK AND THE DELAWARE RIVER
MAY 1984

Stream Segment	Monitoring Wells Used	Priority Organic Pollutant Mean Concentration (ug/l)	Estimated Groundwater Flow Range (gpd)	Priority Organic Pollutant Mean Mass Load Range (pounds per day)
West Branch of Hog Run Creek	LF-10-20, LF-11-20, LF-12-13	56	6,900 - 36,300	0.003 - 0.02
Each Branch of Hog Run Creek	CR-7-20, CR-21-17, CR-21-27, CR-21-38, CR-22-18	14	16,100 - 69,600	0.002 - 0.01
West Bank of Hog Run Creek	LF-2-12, LF-3-26, LF-3-50	260	16,500 - 32,300	0.040 - 0.07
East Bank of Hog Run Creek	CR-8-18, CR-9-25, CR-10-27, CR-11-16	105	15,100 - 46,900	0.010 - 0.04
Delaware River West of Hog Run Creek	LF-4-21, LF-5-25, LF-6-25, LF-6-55, LF-7-30	395	30,300 - 68,000	0.010 - 0.22
Delaware River East of Hog Run Creek	CR-2-27, CR-12-20, CR-12-40, CR-13-18, CR-13-32, CR-14-23 CR-16-28, CR-17-29	18	125,100 - 251,000	0.020 - 0.04
		TOTALS	210,000 - 504,100	0.085 - 0.40

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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CONTENTS

1.0	EXECUTIVE SUMMARY	1
2.0	INTRODUCTION	2
3.0	SAMPLING METHODOLOGY	3
3.1	Groundwater	3
3.2	Surface Water and Sediments	3
3.3	Quality Control	3
3.3.1	Quality Control Program	3
3.3.2	Discussion of Parameters with Suspect Results	4
4.0	RESAMPLING RESULTS	6
4.1	Groundwater Flow	6
4.1.1	Groundwater Depth and Flow Pattern	6
4.1.2	Groundwater Discharge Rate	6
4.2	Groundwater, Surface Water, and Stream Sediment Quality - Summary	6
4.3	Analytical Results	9

000529

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APPENDICES

Appendix A BCM Sample Preservation Guide

Appendix B Sampling Blank Analytical Results

Appendix C Duplicate Sample Analytical Results

Appendix D May 1984 Landfill Groundwater Discharge Rate Calculation

1.0 Introduction
2.0 Flow Duration Methodology
3.0 Flow Duration Calculations
4.0 Flow Net Analysis Methodology
5.0 Stream Segment Discharge Calculations

Appendix E Proposed Pennsylvania Ammonia Surface Water Quality Criteria and Determination of Compliance

1.0 Proposed Pennsylvania Ammonia Criteria
2.0 Surface Water Ammonia Results

Appendix F Groundwater, Surface Water, and Sediment Laboratory Analytical Results

Appendix F1 - "CR" Monitoring Well Results
Appendix F2 - "LF" Monitoring Well Results
Appendix F3 - Surface Water Results
Appendix F4 - Seep Results
Appendix F5 - Stream Sediments Results

Appendix G Sampling Location Identification Key

1.0 Introduction
2.0 Sampling Location Identification System

2.1 Monitoring Wells
2.2 Surface Water and Sediment Sampling Locations

000530

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TABLES

Table 1	Sampling Parameters and Analytical Methods
Table 2	Landfill Groundwater Monitoring Well Details
Table 3	Landfill Surface Water and Sediment Sampling Stations
Table 4	Landfill Groundwater Elevations
Table 5	Summary of Proposed Ammonia Criteria Exceedance - Hog Run Creek and the Delaware River
Table 6	Estimated Rate of Ammonia Discharge to Hog Run Creek and the Delaware River, May 1984
Table 7	Estimated Rate of COD Discharge to Hog Run Creek and the Delaware River, May 1984
Table 8	Estimated Rate of Organic Priority Pollutant and Category 3 Compound Discharge to Hog Run Creek and the Delaware River, May 1984
Table 9	Summary of Organic Priority Pollutants and Category 3 Organic Compounds Detected in Groundwater, April - May 1984
Table 10	Summary of Organic Priority Pollutants and Category 3 Organic Compounds Detected in Surface Water, April - May 1984
Table 11	Summary of Organic Priority Pollutants and Category 3 Organic Compounds Detected in Seeps, April - May 1984
Table 12	Summary of Organic Priority Pollutants and Category 3 Organic Compounds Detected in Stream Sediments, April - May 1984
Table D-1	Summary of Groundwater Discharge Rate Calculation Results
Table D-2	May 1984 Flow Net Flow Tube Discharge Calculations
Table D-3	May 1984 Stream Segment Flow Net Discharge Rate Calculation

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TABLES (Continued)

Table D-4 May 1984 Stream Segment Groundwater Discharge Calculation Results

Table E-1 Ammonia Data and Water Quality Criteria - Hog Run Creek and Delaware River, May 1984 Sampling

Table E-2 Ammonia Data and Water Quality Criteria - Hog Run Creek and Delaware River, November 1983 Sampling

Table G-1 Monitoring Well Identification Key

Table G-2 Surface Water and Sediment Sampling Station Identification Key

FIGURES

Figure 1 Location Map

Figure 2 Monitoring Well Locations

Figure 3 Surface Water and Sediment Sampling Locations

Figure 4 May 3, 1984 Shallow Groundwater Contour Map

Figure 5 June 7, 1984 Shallow Groundwater Contour Map

Figure 6 July 2, 1984 Shallow Groundwater Contour Map

Figure 7 August 8, 1984 Shallow Groundwater Contour Map

Figure 8 September 6, 1984 Shallow Groundwater Contour Map

Figure 9 October 2, 1984 Shallow Groundwater Contour Map

Figure 10 Flow Duration Groundwater Discharge Area

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1.0 EXECUTIVE SUMMARY

In April, 1984, BCM Eastern Inc. (BCM) prepared a report for Rohm and Haas Company (Rohm and Haas) entitled "Report on Landfill Investigation." The report contained the results of a comprehensive study of environmental conditions within, and in the vicinity of, the inactive Rohm and Haas industrial landfill located in Bristol Township, Bucks County, Pennsylvania. The report concluded that the landfill did not present an imminent threat to human health or the environment.

An important topic within the report was the environmental conditions of groundwater and surface water in the area. In that regard, the report found the presence of several organic priority pollutants and other contaminants present in the groundwater beneath the landfill. However, the report found that groundwater flowed to Hog Run Creek or the Delaware River rather than towards the community located north of the landfill. Therefore, the presence of the landfill had no effect on community groundwater supplies, though Hog Run Creek did exhibit ammonia concentrations exceeding proposed federal standards.

The quality of groundwater and surface water and the direction of groundwater flow is influenced by the seasons, i.e., the amount of rainfall, evaporation, water consumption, and the like. Therefore, Rohm and Haas elected to continue the monitoring of groundwater flow direction, and to obtain additional water samples throughout seasonal changes so as to confirm the results and conclusions of the April 1984 report.

The overall pattern of groundwater flow and groundwater quality presented in the April 1984 report were both confirmed by the resampling study. The new data obtained by the resampling, as well as improved calculations of groundwater flow rates, improved the base of information available as to environmental conditions in the landfill area. However, it did not alter the conclusion that the landfill does not pose an imminent threat to human health or the environment.

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2.0 INTRODUCTION

This report summarizes the results of the resampling of 57 groundwater monitoring wells and 29 surface water and sediment sampling stations in and around the inactive Rohm and Haas Bristol Landfill. The landfill is located in Bristol Township, Pennsylvania (see Figure 1 for study area location map). The resampling was conducted between April 19, 1984 and May 31, 1984. The objectives of this resampling were to identify seasonal trends in groundwater and surface water quality and to confirm the initial set of sampling results. The initial sampling was conducted in Fall 1983 through early Winter 1984, and was reported in BCM's April 1984 Report on Landfill Investigation.

The resampling parameter list is identical to the initial sampling parameter list, except that xylenes were added. Total organic halides, analyzed but not reported during the initial sampling due to analytical uncertainties, are reported for both sampling events. All parameters are listed in Table 1, along with the corresponding laboratory analytical techniques.

Seven additional surface water and sediment sampling locations were added along the main branch and east branch of Hog Run Creek to better characterize surface water quality. On the west branch of Hog Run Creek a few of the initial sampling locations were inaccessible during the resampling effort. On the unnamed branch, only one initial sampling location (UNB-0730) was resampled.

Sampling and analytical methodologies consistent with the initial sampling were maintained wherever possible to minimize externally introduced variability in the monitoring results.

This report also summarizes the results of the monthly monitoring of groundwater levels and lateral flow pattern during May to October 1984. Corresponding groundwater contour maps are presented and the groundwater flow pattern is discussed. To estimate the total mass discharge rate for selected parameters, a groundwater discharge rate was calculated using May 3, 1984 groundwater levels.

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3.0 SAMPLING METHODOLOGY

3.1 GROUNDWATER

The landfill groundwater monitoring well locations are shown in Figure 2 and detailed in Table 2. The well identification numbers shown represent a revised well identification system developed subsequent to BCM's April 1984 report. This new system retains the previously used well numbers but adds a numerical suffix to indicate the depth of the bottom of the screened interval below ground surface in feet (see Table G-1).

Prior to sampling, each well was pumped to evacuate several well volumes to ensure that "fresh" representative groundwater was obtained, except that well LF-6-26 was pre-bailed. After pumping, a Teflon bailer was used to obtain the samples. Sample water for non-volatile analyses was pressure-filtered (0.45-um pore size) in the field into sample containers pre-fixed with the necessary sample preservatives (the BCM Laboratory Sample Preservation Guide is contained in Appendix A). The sampling bailer and field filter were cleansed between sampling stations by successive rinses with soapy water, a methanol and deionized water solution, and deionized water.

3.2 SURFACE WATER AND SEDIMENTS

Surface water and sediment sampling stations are shown in Figure 3 and described in Table 3. The surface water and sediment samples obtained from the tidal Delaware River and the tidal portions of Hog Run Creek were taken at slack-low tide. Water was obtained either directly from channel flow or from seeps along the stream banks using a glass beaker. Where possible, sample water for volatile analyses was collected by submerging the sample vial. Non-volatile sample volume was field filtered into laboratory prepared containers. Sediment samples were collected using an Eckman grab sampler and/or a stainless steel trowel. All sampling equipment was thoroughly cleansed by successive rinses with soapy water, a methanol and deionized water solution, and deionized water.

3.3 QUALITY CONTROL

3.3.1 Quality Control Program

Quality control was accomplished by: following the field-sampling protocols described in Sections 3.1 and 3.2; utilizing daily field and weekly trip blanks; taking duplicate samples which were "lab blind"; using established and certified laboratory analytical techniques; and rigorously reviewing and/or re-analyzing results which appeared to be inconsistent with previous results.

000535

The sampling blanks were analyzed for purgeable halocarbons and aromatics, whereas the duplicate samples (taken at a rate of 1 duplicate per 10 samples) were analyzed for the entire set of resampling parameters. The analytical results from the sampling blanks are presented in Appendix B. The duplicate analytical results are presented in Appendix C, along with each corresponding sample.

3.3.2 Discussion of Parameters with Suspect Results

Analytical results may not always accurately reflect actual water quality conditions for concentrations detected in the low parts per billion (ppb) range. Factors responsible for these results being suspect and the associated parameters include:

1. Potential for extremely low-level laboratory contamination. Several volatile organic compounds are used as solvents in analytical laboratory test procedures and, despite quality control precautions, may contaminate samples being analyzed for these constituents. The compounds most likely to cause this low-level laboratory contamination are chloroform and methylene chloride because of their volatility and common laboratory use. Toluene, used in the laboratory to prepare samples for herbicide analysis, was detected in sampling blanks on two occasions.

2. Laboratory procedures that are susceptible to interference from other constituents. Laboratory procedures that utilize colorimetric methods may yield erroneous results if other constituents in the sample exhibit color at or near the wavelength of the parameter of concern. Parameters tested with a colorimetric method include DNCP and Karathane.

3. Sample collection materials that may contribute constituents to the sample. During sampling, precautions are taken to prevent the introduction of non-sample-related compounds. These precautions include using containers, filtering devices, and bailers constructed of materials compatible with the parameters. However, groundwater samples do come in contact with the monitoring well casing and screening and dedicated suction hose material, which is polyvinyl chloride (PVC). These PVC materials are the suspected source of the bis(2-ethylhexyl) phthalate, a plasticizing agent, which has been detected at low levels in many groundwater samples.

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In response to positive chloroform, methylene chloride, and toluene results in a number of sampling blanks, eight monitoring wells were resampled on July 26, 1984. Purgeable halocarbons and aromatics data, which are suspect as a result of these positive results, have been noted with a single asterisk (*) in the data tables (Appendix F).

000537

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4.0 RESAMPLING RESULTS

4.1 GROUNDWATER FLOW

4.1.1 Groundwater Depth and Flow Pattern

Monthly monitoring of groundwater levels was conducted from May to August 1984 in all monitoring wells and piezometers. Groundwater contour maps were constructed using these monthly groundwater levels from the shallow wells and piezometers (see Figures 4 through 9). These groundwater contour maps indicate that the pattern of the lateral groundwater flow component has remained consistent; all groundwater beneath the landfill discharges to Hog Run Creek or to the Delaware River. Groundwater in the deeper portion of the alluvial aquifer has consistently flowed from north to south, towards the Delaware River, throughout the entire monitoring period. Groundwater at any depth does not flow from the landfill to any residential area.

The study area groundwater table elevations in areas outside of the influence of the tidal Delaware River and Hog Run Creek have fluctuated from about 1.3 to 6.2 feet during the monitoring period (see Table 4). This groundwater table fluctuation is in response to daily and seasonal variations in precipitation and in uptake of water by vegetation and evaporation. Groundwater levels in wells close to the Delaware River and the tidal portion of Hog Run Creek fluctuate in response to tidal cycles.

4.1.2 Groundwater Discharge Rate

The estimated rate of groundwater discharge from the portion of the study area shown in Figure 10 to Hog Run Creek and the Delaware River for May 1984 increased about 28 percent over the February 1984 estimated rate (based upon flow net calculation methods). The May 1984 groundwater discharge rate was calculated to range from approximately 210,000 gallons per day (gpd) to 504,000 gpd (see Appendix D). The February 1984 rate (in BCM's April 1984 report) was estimated to range from approximately 164,000 gpd to 274,000 gpd.

4.2 GROUNDWATER, SURFACE WATER, AND STREAM SEDIMENT QUALITY - SUMMARY

The Spring 1984 resampling and laboratory analysis of water and sediments from the monitoring wells and surface water system yielded results which were generally consistent with the Fall 1983 sampling results. Highlights of the Spring 1984 results include:

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1. The concentrations of dissolved inorganic parameters (such as chlorides and sulfates) and indicator parameters (such as specific conductance) generally decreased at most surface water sampling stations. This general lowering of concentrations may be attributed to the dilution provided by late-winter and early-spring rainfall.

2. The results of the May 1984 stream sampling indicate that the proposed Pennsylvania ammonia criteria were exceeded at the sampling stations along the tidal portion of Hog Run Creek. Table 5 summarizes the degree to which the aquatic toxicity-based criteria were exceeded. The proposed criteria and the methodology for determining compliance are discussed in greater detail in Appendix E. The proposed ammonia criteria were not exceeded at the sampling stations along the Delaware River or along the east and west branches of Hog Run Creek.

3. The estimated May 1984 groundwater ammonia discharge associated with the landfill to Hog Run Creek and the Delaware River ranges from approximately 73 pounds per day to 168 pounds per day (see Table 6). This represents an increase over the February 1984 ammonia loading rate estimate of 28 pounds per day.

   Contributing to this increase in the discharge rate estimate is an improvement in the method of calculating the loading rate and an increase in the groundwater discharge rate due to increased wet season recharge. The improved calculation used several additional monitoring wells to compute the mean groundwater ammonia concentration of groundwater discharging to the west and east branches of Hog Run Creek and to the Delaware River east of Hog Run Creek.

4. The estimated May 1984 groundwater chemical oxygen demand (COD) discharge associated with the landfill to Hog Run Creek and the Delaware River ranges from approximately 140 pounds per day to 345 pounds per day (see Table 7). This represents an increase over the February 1984 COD discharge rate estimate of 115 pounds per day.

   This increase in the discharge rate estimate is also attributed to the use of additional wells to compute the groundwater COD concentration and to the increased groundwater discharge rate.

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5. The estimated May 1984 U.S. Environmental Protection Agency (US EPA) organic priority pollutant and category 3 organic compound parameter discharge associated with the landfill to Hog Run Creek and the Delaware River ranges from approximately 0.08 pounds per day to 0.4 pounds per day (See Table 8).

6. The pesticides Lethane and DNCP were detected at concentrations ranging from 0.001 milligrams per liter (mg/l) to 0.007 mg/l and from 0.01 mg/l to 0.03 mg/l, respectively, in Hog Run Creek downstream from the Treated Water Basin 3B (TWB-3B) outfall and in a limited number of landfill monitoring wells. DNCP was detected at 0.06 mg/l in the discharge from TWB-3B.

7. Xylenes, added to the parameter list for the Spring 1984 sampling, were detected in 12 monitoring wells at concentrations ranging from trace to 1,700 micrograms per liter (ug/l).

8. With the exception of trichloroethylene (TCE) being detected in Well CR-12-40 for the first time, the spatial distribution of TCE-bearing groundwater has remained generally consistent with the initial findings. However, the TCE concentrations detected during May 1984 were markedly lower than concentrations detected previously. This lowering in TCE concentrations may be due to one or more factors, including dilution due to rainwater infiltration, or dispersion of a finite amount of TCE over time.

9. Trace concentrations of 1,1,1-trichloroethane (ranging from 1.1 ug/l to 7.3 ug/l) were detected along the entire length of the east branch of Hog Run Creek and in the upper portion of the main branch of Hog Run Creek. Ethylbenzene was not detected in the upstream portion of the west branch of Hog Run Creek, as it was during the initial sampling.

10. Xylenes were detected at a trace concentration (9.1 ug/l) in the Delaware River 1.5 miles downstream from its confluence with Hog Run Creek, adjacent to the Neshaminy Marina.

11. Several base neutral organic priority pollutants were detected in a stream-sediment sample from new sampling station HRE-3980 on the east branch of Hog Run Creek at concentrations ranging from 320 micrograms per kilogram (ug/kg) to 500 ug/kg. These constituents are contained in charcoal-like substances created by burning materials. The sediments sampled may have contained charred matter washed into Hog Run Creek from an unknown source.

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The organic parameters detected in the April and May 1984 groundwater, surface water, seeps, and sediment samples are summarized in Tables 9, 10, 11, and 12, respectively.

4.3 ANALYTICAL RESULTS

The Spring 1984 resampling laboratory analytical results are presented in Appendix F along with the results of the initial sampling (Fall 1983 - Winter 1984). The sample types (i.e., monitoring well, surface water, seep, or sediment) have been segregated and are identified at the top of each page. Each set of resampling results is printed alongside the corresponding set of initial results.

During both the initial sampling and the resampling efforts, some wells were sampled more than once for purgeable halocarbon and purgeable aromatic compounds. These additional results are presented in chronological order in the Category 4 data printout for each well.

Where individual sample parameters were not analyzed, "NT" (not tested) is shown in the data printout. The three major occurrences of parameters not being analyzed are:

1. Total organic halides were deleted from the initial sampling parameter list mid-way in the program due to results that seemed questionable. Despite reservations as to the validity of the analytical test procedure, total organic halides were included on the resampling parameter list due to its widespread use by regulatory agencies.

2. Xylenes were added to the resampling parameter list and thus show NT for the initial sampling.

3. The volatile organic compounds acrolein and acrylonitrile were not analyzed during the resampling. These compounds are not measured on the purgeable halocarbon scan as a matter of routine practice at the BCM laboratory, whereas these compounds were measured by the laboratory which conducted the initial analysis (CompuChem). This discrepancy was not identified until the analyses were completed. However, acrolein and acrylonitrile were not detected in any landfill sample during the initial sampling.

A sample identification key in Appendix G provides the original sample station designations used in the April 1984 report and the revised sample station designations. The system used to develop the revised sample station designations is also explained.

000541

TABLES

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TABLE 1

SAMPLING PARAMETERS AND ANALYTICAL METHODS

Parameter	EPA Method #	Description of Method
Category 1		
TOC	415.1	Combustion infrared method
TOX	8.56	Combustion electrotitration
BOD_5	405.1	Winkler or electrode method (Azide modification)
COD	415.1	Dichromate reflux
Specific Conductance	120.1	Wheatstone bridge conductimetry
pH	150.1	Electrometric measurement
Category 2		
Ammonia	350.(1-2)	Colorimetric, Automated Phenate
Boron	404A	Colorimetric (curcumin)
Chloride	325.3	Mercuric Nitrate
Fluoride	340.2	Distillation followed by ion electrodes SPADNS
Iron	236.1	Digestion followed by atomic absorption
Nitrate	300.0	Ion chromatograph
Phosphate	365.2	Persulfate digestion and ascorbic acid
Sulfate	300.0	Ion chromatograph
Sodium	273.1	Digestion followed by atomic absorption
Potassium	258.1	Digestion followed by atomic absorption
Tin	282.1	Digestion followed by atomic absorption
Barium	208.1	Digestion followed by atomic absorption
Sulfide	427D Standard Methods	Iodometric titration
Manganese	243.1	Digestion followed by atomic absorption
Category 3		
Oil and grease	413.1	Liquid-liquid extraction with trichloro-trifluoro-ethane-gravimetric
MBAS	425.1	Colorimetric
MEK	Special BCM Method	Gas chromatography
Isobutyl alcohol	Special BCM Method	Gas chromatography
n-Butyl alcohol	Special BCM Method	Gas chromatography
Isopropyl alcohol	Special BCM Method	Gas chromatography
Ethanol	Special BCM Method	Gas chromatography
Butyl methacrylate	Special BCM Method	Gas chromatography
Methyl methacrylate	Special BCM Method	Gas chromatography
Ethyl acrylate	Special BCM Method	Gas chromatography
Butyl acrylate	Special BCM Method	Gas chromatography
Styrene	Special BCM Method	Gas chromatography
Acetone	Special BCM Method	Gas chromatography
Ethyl acetate	Special BCM Method	Gas chromatography
Cellosolve acetate	Special BCM Method	Gas chromatography
Butyl cellosolve	Special BCM Method	Gas chromatography
Dithane	Rohm and Haas Method	Gas chromatography
Lethane	Rohm and Haas Method	Gas chromatography
Karathane	Rohm and Haas Method	Liquid - liquid extraction, colorimetric
DNCP	Rohm and Haas Method	Liquid - liquid extraction, colorimetric
Xylene	602	Gas chromatography
Category 4		
Volatile organics	624	Gas chromatography
Chloromethane		
Bromomethane		
Vinyl chloride		
Chloroethane		
Methylene chloride		
Trichlorofluoromethane		
1,1-Dichloroethene		
1,1-Dichloroethane		
trans-1,2-Dichloroethylene		
Chloroform		
1,2-Dichloroethane		
1,1,1-Trichloroethane		
Carbon tetrachloride		
Bromodichloromethane		
1,2-Dichloropropane		
trans-1,3-Dichloropropylene		
Trichloroethylene		

000542

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TABLE 1
SAMPLING PARAMETERS AND ANALYTICAL METHODS

Parameter	EPA Method #	Description of Method
Dibromochloromethane and/or 1,1,2-Trichloroethane and/or cis-1,3-Dichloropropylene		
Bromoform		
1,1,2,2-Tetrachloroethane and/or Tetrachloroethane		
Chlorobenzene		
Benzene		
Toluene		
Ethyl benzene		
1,2-Dichlorobenzene		
1,3-Dichlorobenzene		
1,4-Dichlorobenzene		
Base neutrals	625	Gas chromatography/Mass spectroscopy
N-Nitrosodimethylamine		
bis(2-Chloroethyl) ether		
1,3-Dichlorobenzene		
1,4-Dichlorobenzene		
1,2-Dichlorobenzene		
bis(2-Chloroisopropyl) ether		
Hexachloroethane		
N-Nitrosodi-n-propylamine		
Nitrobenzene		
Isophorone		
bis(2-Chloroethoxy) methane		
1,2,4-Trichlorobenzene		
Napthalene		
Hexachlorobutadiene		
Hexachlorocyclopentadiene		
2-Chloronaphthalene		
Dimethyl phthalate		
Acenaphthylene		
2,6-Dinitrotoluene		
Acenaphthene		
2,4-Dinitrotoluene		
Diethyl phthalate		
Fluorene		
4-Chlorophenyl phenyl ether		
N-Nitrosodiphenylamine		
1,2-Diphenylhydrazine (Azobenzene)		
4-Bromophenyl phenyl ether		
Hexachlorobenzene		
Phenanthrene		
Anthracene		
Di-n-butyl phthalate		
Fluoranthene		
Benzidine		
Pyrene		
Butyl benzyl phthalate		
Benzo(a)anthracene		
3,3'-Dichlorobenzidine		
Chrysene		
bis(2-Ethylhexyl) phthalate		
Di-n-octyl phthalate		
Benzo(b)fluoranthene		
Benzo(k)fluoranthene		
Benzo(a)pyrene		
Indeno(1,2,3-c,d)pyrene		
Dibenzo(a,h)anthracene		
Benzo(g,h,i)perylene		

000543

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TABLE 1
SAMPLING PARAMETERS AND ANALYTICAL METHODS

Parameter	EPA Method #	Description of Method
Acid extractables	625	Gas chromatography
Phenol		
2-Chlorophenol		
2-Nitrophenol		
2,4-Dimethylphenol		
2,4-Dichlorophenol		
p-Chloro-m-cresol		
2,4,6-Trichlorophenol		
2,4-Dinitrophenol		
4-Nitrophenol		
4,6-Dinitro-o-cresol		
Pentachlorophenol		
PCB/Pesticides	608	Gas chromatography
Aldrin		
Alpha-BHC		
Beta-BHC		
Gamma-BHC		
Delta-BHC		
Chlordane		
4,4'-DDT		
4,4'-DDE		
4,4'-DDD		
Dieldrin		
Endosulfan I		
Endosulfan II		
Endosulfan Sulfate		
Endrin		
Endrin Aldehyde		
Heptachlor		
Heptachlor Epoxide		
PCB-1242		
PCB-1252		
PCB-1221		
PCB-1232		
PCB-1248		
PCB-1260		
PCB-1016		
Toxaphene		
Phenols	420.2	Colorimetric, Automated 4-AAP with Distillation
Cyanide	335.3	Colorimetric, Automated UV
Antimony	204.1	Digestion followed by atomic absorption
Arsenic	206.2	Digestion followed by atomic absorption
Beryllium	210.1	Digestion followed by atomic absorption
Cadmium	213.2	Digestion followed by atomic absorption
Chromium	218.2	Digestion followed by atomic absorption
Copper	220.1	Digestion followed by atomic absorption
Mercury	245.5	Digestion followed by atomic absorption
Lead	239.2	Digestion followed by atomic absorption
Selenium	270.2	Digestion followed by atomic absorption
Silver	272.2	Digestion followed by atomic absorption
Thallium	279.1	Digestion followed by atomic absorption
Zinc	289.1	Digestion followed by atomic absorption
Nickel	249.1	Digestion followed by atomic absorption
Herbicides		
2,4-D	509B standard methods	Gas chromatograph
2,4,5-TP	509B standard methods	Gas chromatograph
Category 5		
Gross alpha	900.0	
Gross beta	900.1	
Total radium	900.0	
Category 6		
Dioxin (2,3,7,8-TCDD)		Gas chromatograph/Mass spectroscopy

Source: BCM Eastern Inc. (BCM Project No. 00-4061-06)

000544

000545

TABLE 2

LANDFILL GROUNDWATER MONITORING WELL DETAILS

Well Number	Date Installed	Total Well Depth Below Ground Surface (feet)	Screened Interval Below Ground Surface (feet)	Datum: Mean Sea Level				May 3, 1984 Depth to Water Table From Protective Steel Casing Top (feet)
				Protective Steel Casing Top Elevation (feet)	PVC Casing Top Elevation (feet)	Ground Elevation (feet)	May 3, 1984 Water Table Elevation (feet)	
CR-1-22	10/17/83	27	17-22	24.06	23.53	20.85	11.26	12.79
CR-1-50	01/26/84	50	40-50	23.10	22.75	21.18	11.29	11.81
CR-2-27	10/12/83	27	17-27	22.48	22.10	19.77	10.71	11.77
CR-3-22	10/21/83	22	12-22	23.57	23.18	20.82	11.05	12.52
CR-3-45	10/12/83	45	30-45	23.49	23.14	20.87	11.08	12.42
CR-3-70	02/01/84	70	60-70	23.34	22.96	20.89	11.35	11.99
CR-4-20	10/11/83	20	10-20	19.05	18.64	16.19	11.32	7.73
CR-4-50	10/10/83	50	30-50	19.26	18.91	16.07	11.51	7.75
CR-4-90	02/22/84	90	80-90	19.33	18.75	16.67	11.83	7.50
CR-5-27	10/12/83	27	7-27	21.69	21.27	19.22	10.54	11.15
CR-6-20	10/07/83	20	5-20	17.58	17.15	14.98	10.40	7.19
CR-7-20	10/14/83	20	10-20	18.92	18.33	16.91	8.04	10.88
CR-8-17	12/05/79	19.9	3-17	14.25	*	11.34	6.69	7.55
CR-9-25	10/03/83	25	5-25	13.98	13.60	10.98	7.19	6.79
CR-10-27	10/05/83	27	7-27	13.62	13.26	10.44	4.34	9.28
CR-11-16	12/06/79	17.7	2-16	11.17	*	7.86	4.74	6.44
CR-12-20	10/24/83	20	10-20	14.55	14.17	12.17	4.23	10.32
CR-12-40	10/19/83	40	35-40	14.91	14.37	12.63	4.25	10.75
CR-13-18	Prior to 1980	18	NA	10.48	NA	9.81	3.48	7.00
CR-13-32	09/28/83	32.5	22.5-32.5	12.69	12.12	9.80	4.51	8.19
CR-14-23	Prior to 1980	23	NA	14.14	NA	10.33	4.54	9.60
CR-15-13	Prior to 1980	13	NA	9.26	NA	5.89	4.56	4.71
CR-16-28	12/16/83	28.5	13.5-28.5	10.19	9.72	8.01	5.05	5.15
CR-17-29	12/20/83	29.5	9.5-29.5	22.84	22.50	20.72	10.09	12.75
CR-18-55	01/30/84	55	45-55	31.24	30.91	29.19	12.26	18.98

TABLE 2
LANDFILL GROUNDWATER MONITORING WELL DETAILS

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Well Number	Date Installed	Total Well Depth Below Ground Surface (feet)	Screened Interval Below Ground Surface (feet)	Datum: Mean Sea Level				May 3, 1984 Depth to Water Table From Protective Steel Casing Top (feet)
				Protective Steel Casing Top Elevation (feet)	PVC Casing Top Elevation (feet)	Ground Elevation (feet)	May 3, 1984 Water Table Elevation (feet)	
CR-19-15	02/06/84	15	10-15	11.98	11.49	10.26	10.07	1.92
CR-19-37	01/31/84	37	27-37	12.35	11.92	10.18	>11.92	<0.37
CR-20-22	02/09/84	22	7-22	20.43	20.49	18.47	10.29	10.15
CR-20-38	02/09/84	38	28-38	21.39	20.43	18.49	11.39	10.00
CR-21-17	02/10/84	17	2-17	16.80	16.15	14.33	11.44	5.36
CR-21-27	02/17/84	27.5	17.5-27.5	16.88	16.14	14.54	11.52	5.24
CR-21-38	01/31/84	38	28-38	16.81	15.86	14.19	11.58	5.30
CR-22-18	02/21/84	18	8-18	16.52	15.86	14.07	11.21	5.31
LF-1-25	07/01/83	25	15-25	22.96	22.49	20.07	11.54	11.42
LF-2-12	07/01/83	12.5	6-12.5	17.95	17.80	14.40	10.55	7.40
LF-3-26	12/07/79	27.6	12-26	22.06	*	19.01	6.68	18.34
LF-3-50	10/18/83	50	40-50	21.49	21.05	19.03	3.15	15.37
LF-4-21	12/07/79	24.3	7-21	18.33	*	14.51	4.63	13.71
LF-5-25	12/11/79	27.4	11-25	14.71	*	12.51	0.40	14.31
LF-6-26	10/25/83	26	16-26	31.87	31.39	29.13	8.27	31.76
LF-6-55	10/24/83	55	45-55	31.40	31.02	28.90	-0.27	23.60
LF-7-30	12/06/79	32.9	16-30	16.21	*	14.05	8.16	8.05
LF-8-18	10/20/83	18	8-18	15.49	14.96	13.05	9.23	6.25
LF-9-20	10/19/83	20	10-20	17.31	17.03	15.37	10.25	7.06
LF-10-20	07/01/83	20	4-20	21.60	21.34	19.21	10.98	10.62
LF-11-20	10/06/83	20	10-20	14.26	13.92	11.39	10.11	4.16
LF-12-13	07/01/83	13	3-13	20.76	20.43	17.85	9.72	11.04
LF-13-18	10/14/83	18	8-18	19.78	19.36	16.95	11.26	8.52
LF-13-43	01/12/84	43	33-43	18.79	18.44	16.70	12.20	6.60
LF-14-20	10/13/83	20	10-20	21.70	21.18	19.05	12.99	8.71
LF-15-26	10/13/83	26	6-26	18.46	18.06	15.90	11.04	7.42
LF-15-37	01/10/84	37	27-37	18.79	17.36	16.20	11.10	7.70

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TABLE 2
LANDFILL GROUNDWATER MONITORING WELL DETAILS

Well Number	Date Installed	Total Well Depth Below Ground Surface (feet)	Screened Interval Below Ground Surface (feet)	Datum: Mean Sea Level				May 3, 1984 Depth to Water Table From Protective Steel Casing Top (feet)
				Protective Steel Casing Top Elevation (feet)	PVC Casing Top Elevation (feet)	Ground Elevation (feet)	May 3, 1984 Water Table Elevation (feet)	
LF-16-37	01/17/84	37	27-37	14.38	14.10	12.44	10.05	4.50
LF-17-18	01/24/84	18	13-18	18.48	18.13	16.04	10.99	8.00
LF-18-15	01/25/84	15.5	5.5-15.5	16.14	15.53	13.10	11.63	4.66
LF-19-18	01/25/84	18	8-18	19.75	18.90	17.22	11.62	8.26
LF-20-22	01/26/84	22.5	12.5-22.5	24.16	23.55	21.89	11.82	12.42
Piezometers								
P-1	12/14/83	25	20-25	21.27	21.06	18.93	11.01	10.26
P-2	12/14/83	10	5-10	12.28	12.02	10.79	10.76	1.52
P-3	12/15/83	18	13-18	16.58	16.25	14.36	11.32	5.26
P-4	12/15/83	16	11-16	17.55	17.40	15.97	12.49	5.06
P-5	12/14/83	20	15-20	30.26	30.14	28.04	12.70	17.57
P-6	12/15/83	20	15-20	21.94	21.73	19.97	10.86	10.62
P-7	12/13/83	21	16-21	13.55	13.30	11.14	7.12	6.43

NA = Not available
* Protective steel casing threaded to PVC casing
Source: BCM Eastern Inc. (Project No. 00-4061-06)

February 1985 Report

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TABLE 9

SUMMARY OF ORGANIC PRIORITY POLLUTANT AND CATEGORY 3
ORGANIC COMPOUNDS DETECTED IN MONITORING WELLS (1) (2)
APRIL - MAY 1984

Well Number	Compound(s) Detected	Concentration (ug/l)
CR-1-22	bis(2-Ethylhexyl) phthalate	42.0
	Di-n-octyl phthalate	19.0
CR-1-50	None	
CR-2-27	bis(2-Ethylhexyl) phthalate	28.0
	1,1,1-Trichloroethane	1.7
	Trichloroethylene	6.4
CR-3-22	Total xylenes	5.6
CR-3-45	Total xylenes	9.5
	1,2-Dichloroethane	1.2
	Trichloroethylene	1.0
CR-3-70	bis(2-Ethylhexyl) phthalate	53.0
CR-4-20	None	
CR-4-50	bis(2-Ethylhexyl) phthalate	30.0
	Tetrachloroethylene	1.3, 1.8 *
	1,1,1-Trichloroethane	30.1, 35.9 *
	Trichloroethylene	197.0, 233.0 *
CR-4-90	bis(2-Ethylhexyl) phthalate	110.0
	Toluene	2.4
CR-5-27	Benzene	3.5
	cis-1,3-Dichloropropylene	1.8
CR-6-20	bis(2-Ethylhexyl) phthalate	29.0
	1,1,1-Trichloroethane	1.0
CR-7-20	None	
CR-8-17	None	
CR-9-25	Total xylenes	176.0, 426.0 **
	Benzene	49.8, 89.3 **
	1,2-Dichloroethane	3.8
	Ethylbenzene	15.1
	Toluene	27.3 **
CR-10-27	None	
CR-11-16	Toluene	3.5
	Trichloroethylene	1.5
CR-12-20	Lethane	2.0
	bis(2-Ethylhexyl) phthalate	30.0
	1,1,1-Trichloroethane	1.3
	Trichloroethylene	1.5
CR-12-40	Lethane	7.0
	bis(2-Ethylhexyl) phthalate	130.0
	1,1,1-Trichloroethane	2.3
	Trichloroethylene	98.0

000548

TABLE 9
SUMMARY OF ORGANIC PRIORITY POLLUTANT AND CATEGORY 3
ORGANIC COMPOUNDS DETECTED IN MONITORING WELLS (1) (2)
APRIL - MAY 1984

Well Number	Compound(s) Detected	Concentration (ug/l)
CR-13-18	None	
CR-13-32	bis(2-Ethlyhexyl) phthalate	65.0
	1,2-Dichloroethane	1.6
CR-14-23	None	
CR-15-13	bis(2-Ethylhexyl) phthalate	44.0
CR-16-28	Lethane	3.0, 2.0 *
	Chlorobenzene	5.4, 7.1 *
	Trichloroethylene	3.7
CR-17-29	1,1-Dichloroethane	1.1
	1,3-Dichlorobenzene	10.7 **
	1,4-Dichlorobenzene	6.6 **
	Bromoform	4.1 **
	cis-1,3-Dichloropropylene	2.5 **
	Tetrachloroethylene	3.3 **
	trans-1,2-Dichloroethylene	7.5 **
	Trichloroethylene	1.4 **
CR-18-55	Total xylenes	1.6
	1,1,1-Trichloroethane	2.4
	Trichloroethylene	4.7
CR-19-15	Tetrachloroethylene	193.0
	1,1,1-Trichloroethane	3.0, 26.6 **
	Trichlorethylene	17.1, 79.1 **
	1,1-Dichloroethylene	2.3 **
CR-19-37	Total xylenes	7.1
	Ethylbenzene	2.6
	1,1,1-Trichloroethane	14.8
	Trichloroethylene	16.0
CR-20-22	Trichloroethylene	1.7
CR-20-38	1,1-Dichloroethane	1.1
	Toluene	3.6
	1,1,1-Trichloroethane	12.5
	Trichloroethylene	31.8
CR-21-17	Trichloroethylene	1.3
CR-21-27	cis-1,3-Dichloropropylene	2.4
	Tetrachloroethylene	3.3
	trans-1,2-Dichloroethylene	3.8
	1,1,1-Trichloroethane	8.7
	Trichloroethylene	22.5
CR-21-38	1,1,1-Trichloroethane	9.4
	Trichloroethylene	19.7
CR-22-18	bis(2-Ethylhexyl) phthalate	53.0

000549

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TABLE 9
SUMMARY OF ORGANIC PRIORITY POLLUTANT AND CATEGORY 3
ORGANIC COMPOUNDS DETECTED IN MONITORING WELLS (1) (2)
APRIL - MAY 1984

Well Number	Compound(s) Detected	Concentration (ug/l)
LF-1-25	DNCP	10.0
	Total xylenes	11.5
	Benzene	21.3, 51.4 **
	Methylene chloride	49.2 ***
	Toluene	370.0 ***
LF-2-12	DNCP	10.0
	bis(2-Ethylhexyl) phthalate	37.0
	Total xylenes	311.0, 216.0 **
	2,4-Dimethylphenol	31.0
	Naphthalene	19.0
	Benzene	182.0, 88.5 **
	Ethylbenzene	44.0
	Toluene	537.0***, 42.8 **
LF-3-26	Total xylenes	83.1
	Naphthalene	47.0
	Benzene	3.5, 15.1 **
	Chlorobenzene	9.1, 17.9 **
	Ethylbenzene	11.6
	Toluene	229.0***, 8.5**
LF-3-50	Total xylenes	15.0
	Toluene	188.0 ***
	Chlorobenzene	8.3 **
LF-4-21	DNCP	10.0, 20.0 *
	Total xylenes	1,700.0, 1,500.0*, 966.0**, 1,300.0 ****
	bis(2-Chloroethyl) ether	310.0, 350.0 *
	bis(2-Ethylhexyl) phthalate	64.0, 67.0 *
	bis(2-Chloroisopropyl) ether	67.0 *
	Di-n-octyl phthalate	11.0 *
	Benzene	45.1, 43.6*, 34.5**, 37.7 ****
	Chlorobenzene	52.7, 48.4*, 26.2**, 30.2 ****
	Ethylbenzene	8.3, 9.0 *
	Toluene	204.0***, 151.0 ****
	Trichloroethylene	1.8 **
LF-5-25	None	
LF-6-26	None	
LF-6-55	bis(2-Ethylhexyl) phthalate	59.0

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TABLE 9
SUMMARY OF ORGANIC PRIORITY POLLUTANT AND CATEGORY 3
ORGANIC COMPOUNDS DETECTED IN MONITORING WELLS (1) (2)
APRIL - MAY 1984

Well Number	Compound(s) Detected	Concentration (ug/l)
LF-7-30	DNCP	10.0
	Benzene	3.1
LF-8-18	DNCP	10.0
	2,4-Dimethylphenol	47.0
	bis(2-Ethylhexyl) phthalate	44.0
	Trichloroethylene	4.0
LF-9-20	Isopropyl alcohol	6.1
	Lethane	1.0
	bis(2-Ethylhexyl) phthalate	32.0
	Tetrachloroethylene	6.6
LF-10-20	DNCP	10.0
	Total xylenes	64.8
	bis(2-Ethylhexyl) phthalate	31.0
	Benzene	69.1
	Chlorobenzene	4.3
LF-11-20	Total xylenes	15.3
	Toluene	5.2
LF-12-13	bis(2-Ethylhexyl) phthalate	54.0
LF-13-18	Tetrachloroethylene	1.7
	1,1,1-Trichloroethane	19.4
	Trichloroethylene	107.0
LF-13-43	1,1-Dichloroethylene	5.1, 8.1*
	Tetrachloroethylene	1.2, 1.4 *
	1,1,1-Trichloroethane	37.1
	Trichloroethylene	145.0, 174.0 *
LF-14-20	bis(2-Ethylhexyl) phthalate	65.0
	Tetrachloroethylene	218.0
LF-15-26	bis(2-Ethylhexyl) phthalate	31.0
	Di-n-octyl phthalate	11.0
LF-15-37	bis(2-Ethylhexyl) phthalate	90.0
LF-16-37	bis(2-Ethylhexyl) phthalate	76.0
LF-17-18	bis(2-Ethylhexyl) phthalate	58.0
	Di-n-octyl phthalate	11.0
LF-18-15	None	

000551

TABLE 9
SUMMARY OF ORGANIC PRIORITY POLLUTANT AND CATEGORY 3
ORGANIC COMPOUNDS DETECTED IN MONITORING WELLS (1) (2)
APRIL - MAY 1984

Well Number	Compound(s) Detected	Concentration (ug/l)
LF-19-18	bis(2-Ethylhexyl) phthalate	100.0
LF-20-22	Trichloroethylene	1.1

Note:

1. This summary does not include the following parameters:
   - oil and grease, and surfactants (MBAS), because these classes of compounds are commonly found in residential and industrial areas and are not specific to Rohm and Haas operations
   - bis(2-Ethylhexyl) phthalate at concentrations equal to or less than 25 ug/l because of potential testing equipment interferences
   - chloroform and methylene chloride at concentrations equal to or less than 10 ug/l because of potential laboratory contamination
   - results noted as being suspect in the data tables (Appendix F) less than 25 ug/l
2. A complete printout appears in Appendices F-1 and F-2

* Duplicate sample
** Resampling (conducted 07/26/84)
*** Suspect results
**** Resampling duplicate (conducted 07/26/84)

Source: BCM Eastern Inc. (Project No. 00-4061-06)

BCM

TABLE 10

SUMMARY OF ORGANIC PRIORITY POLLUTANT AND CATEGORY 3
ORGANIC COMPOUNDS DETECTED IN SURFACE WATER (1) (2)
APRIL - MAY 1984

Sample Station	Compound(s) Detected	Concentration (ug/l)
DRD-1.5	Total xylenes	9.1
	1,3-Dichlorobenzene	4.7
DRU-1.7	None	
DRU-9.5	None	
HRM-0210	Lethane	2.0
HRM-0560	Lethane	2.0
	DNCP	20.0
HRM-0930	None	
TWB-3B	DNCP	60.0
HRM-1110	Lethane	3.0 *
HRM-1370	None	
HRM-2160	1,1,1-Trichloroethane	2.8
	Trichloroethylene	1.5
HRE-2890	1,1,1-Trichloroethane	7.3
	Trichloroethylene	1.1
HRE-3650	1,1,1-Trichloroethane	1.3
HRE-3980	None	
HRE-4560	1,1,1-Trichloroethane	1.1
HRE-5320	None	
HRE-6640	1,1,1-Trichloroethane	4.5
HRW-2760	1,2-Dichloroethane	1.0
HRW-3510	None	
HRW-4470	None	

Note: 1. This summary does not include the following parameters:

- oil and grease, and surfactants (MBAS), because these classes of compounds are commonly found in residential and industrial areas and are not specific to Rohm and Haas operations
- bis(2-Ethylhexyl) phthalate at concentrations equal to or less than 25 ug/l because of potential testing equipment interferences
- chloroform and methylene chloride at concentrations equal to or less than 10 ug/l because of potential laboratory contamination
- results noted as being suspect in the data tables (Appendix F)

2. A complete printout appears in Appendix F-3

*Duplicate sample
Source: BCM Eastern Inc. (Project No. 00-4061-06)

BCM

TABLE 11

SUMMARY OF ORGANIC PRIORITY POLLUTANT AND CATEGORY 3
ORGANIC COMPOUNDS DETECTED IN SEEPS
APRIL - MAY 1984

Sample Station	Compound(s) Detected	Concentration (ug/l)
DRD-0.3	None	
HRM-0720	Lethane	1.0
	DNCP	30.0
HRM-0930	1,4-Dichlorobenzene	8.0
HRM-1970	1,1,1-Trichloroethane	1.0
	Trichloroethylene	1.1
HRE-4060	bis(2-Ethylhexyl) phthalate	27.0
HRW-4030	None	
UNB-730	None	

Note:

1. This summary does not include the following parameters:

   - oil and grease, and surfactants (MBAS) because these classes of compounds are commonly found in residential and industrial areas and are not specific to Rohm and Haas operations
   - bis(2-Ethylhexyl) phthalate at concentrations equal to or less than 25 ug/l because of potential testing equipment interferences
   - chloroform and methylene chloride at concentrations equal to or less than 10 ug/l because of potential laboratory contamination
   - results noted as being suspect in the data tables (Appendix F)

2. A complete printout appears in Appendix F-4

Source: BCM Eastern Inc. (Project No. 00-4061-06)

BCM

TABLE 12

SUMMARY OF ORGANIC PRIORITY POLLUTANT AND CATEGORY 3
ORGANIC COMPOUNDS DETECTED IN STREAM SEDIMENTS (1) (2)
APRIL - MAY 1984

Sample Station	Compound(s) Detected	Concentration (ug/kg)
HRM-1620	Methylene chloride	480.0
HRM-2170	Methylene chloride	27.0
	Phenanthrene*	750.0
	Anthracene*	230.0
	Fluoranthene*	1,800.0
	Pyrene*	1,600.0
	Benzo(a)anthracene*	1,200.0
	Chrysene*	1,000.0
	Benzo(b)fluoranthene*	1,400.0
	Benzo(k)fluoranthene*	930.0
	Benzo(a)pyrene*	1,800.0
	Indeno(1,2,3-c,d)pyrene*	1,600.0
	Dibenzo(a,h)anthracene*	540.0
	Benzo(g,h,i)perylene*	1,500.0
HRE 3980	Trichloroethylene	11.0
	Phenanthrene*	500.0
	Fluoranthene*	420.0
	Pyrene*	320.0
HRW-4031	Trichloroethylene	10.0
	Benzo(k)fluoranthene*	220.0

Note:

1. This summary does not include the following parameters:

   - oil and grease, and surfactants (MBAS), because these classes of compounds are commonly found in residential and industrial areas and are not specific to Rohm and Haas operations
   - bis(2-Ethylhexyl) phthalate at concentrations equal to or less than 25 ug/l because of potential testing equipment interferences
   - chloroform and methylene chloride at concentrations equal to or less than 10 ug/l because of potential laboratory contamination
   - results noted as being suspect in the data tables (Appendix F)

2. A complete printout appears in Appendix F-5

* Parameter associated with charcoal-like burning by-products. See narrative Section 4.2, item 11

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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FIGURES

From HRS .... Approximate Croydon TCE site boundaries

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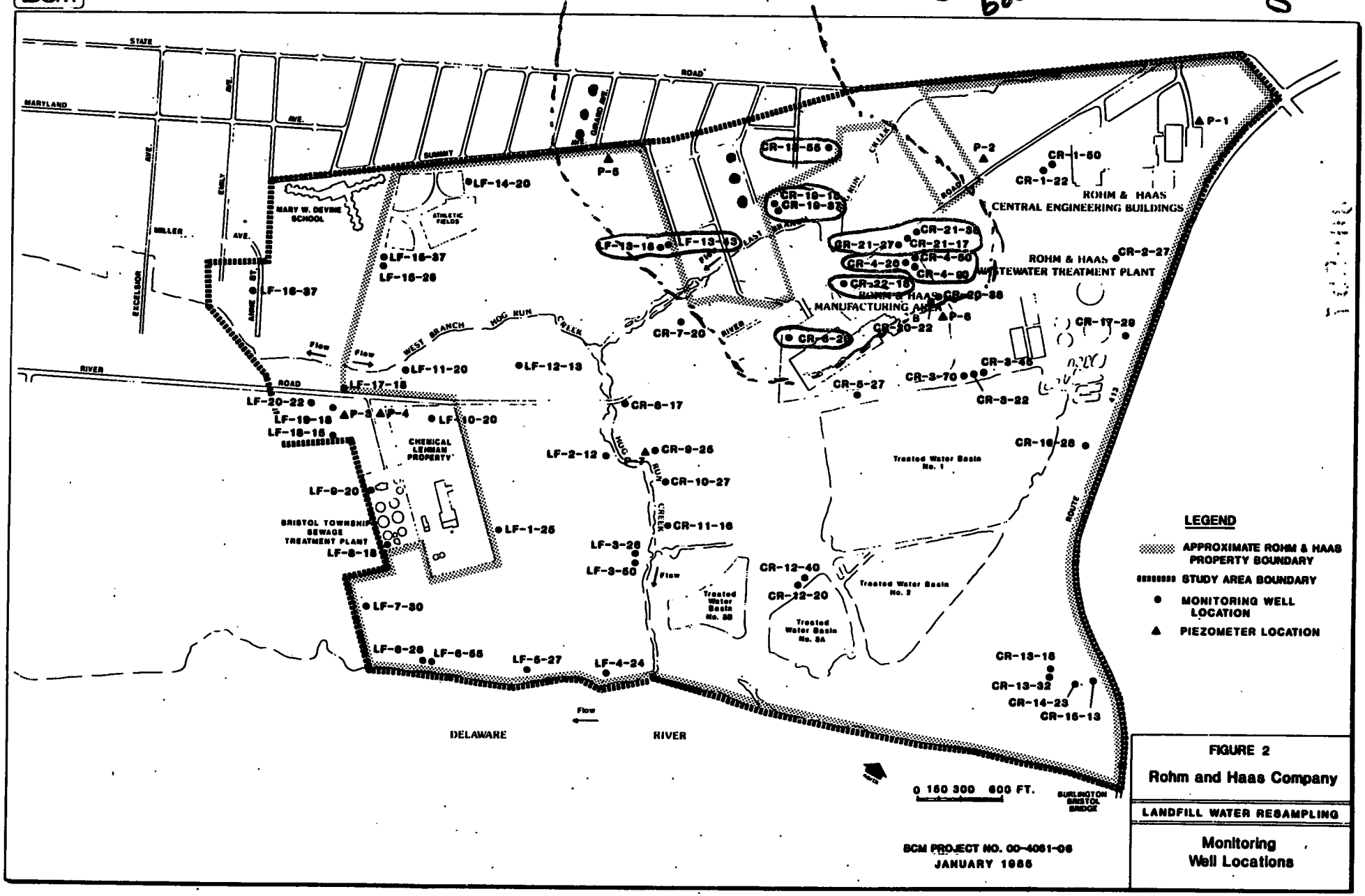


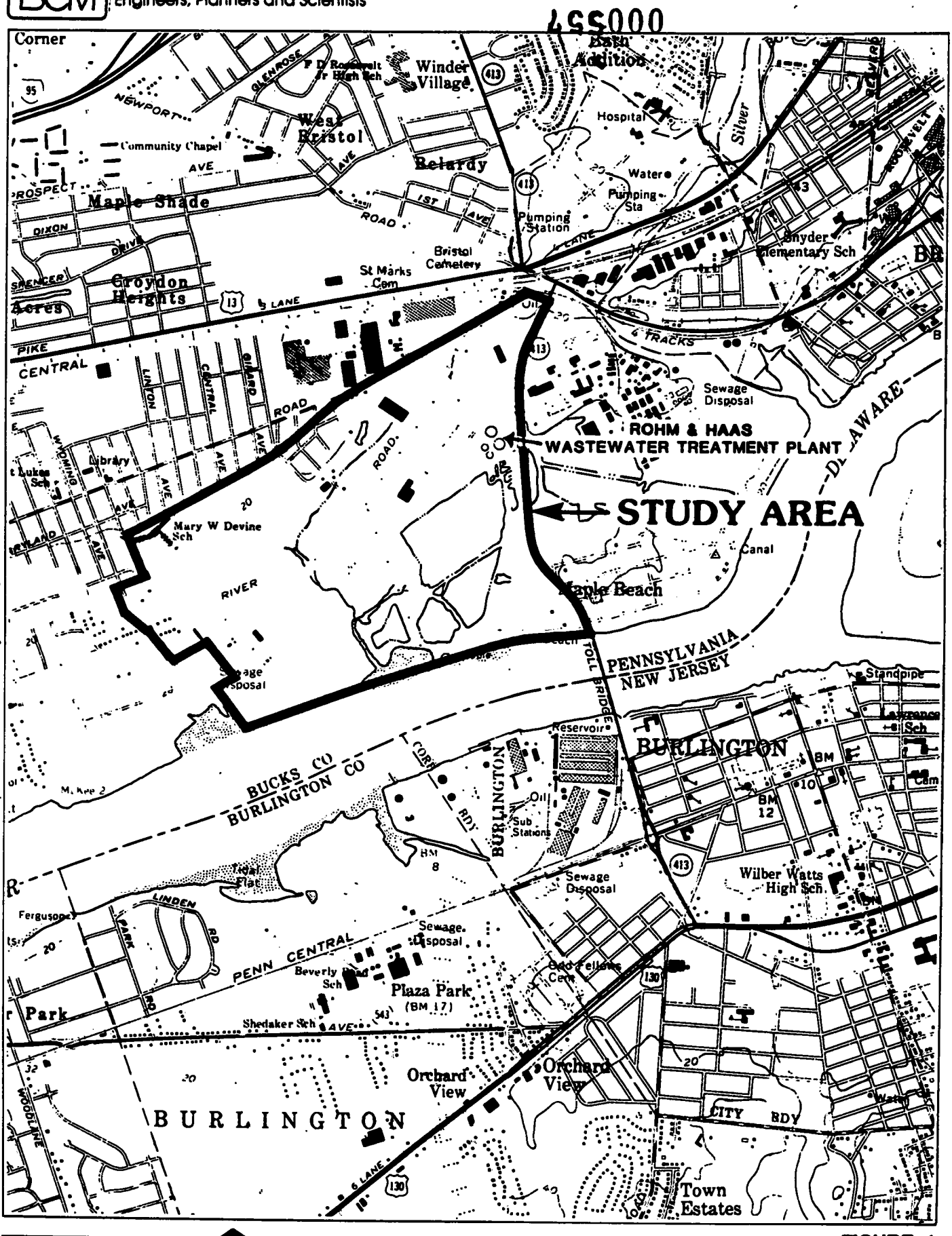
FIGURE 2

Rohm and Haas Company

LANDFILL WATER RESAMPLING

Monitoring Well Locations

BCM Engineers, Planners and Scientists



SOURCE: United States Geological Survey - Beverly Quadrangle (PA-NJ)

0 2000 ft.

N

JANUARY 1985

LANDFILL WATER RESAMPLING

BCM PROJECT NO. 00-4061-06

FIGURE 1

LOCATION MAP

Rohm and Haas Company

BCM Engineers Planners and Scientists

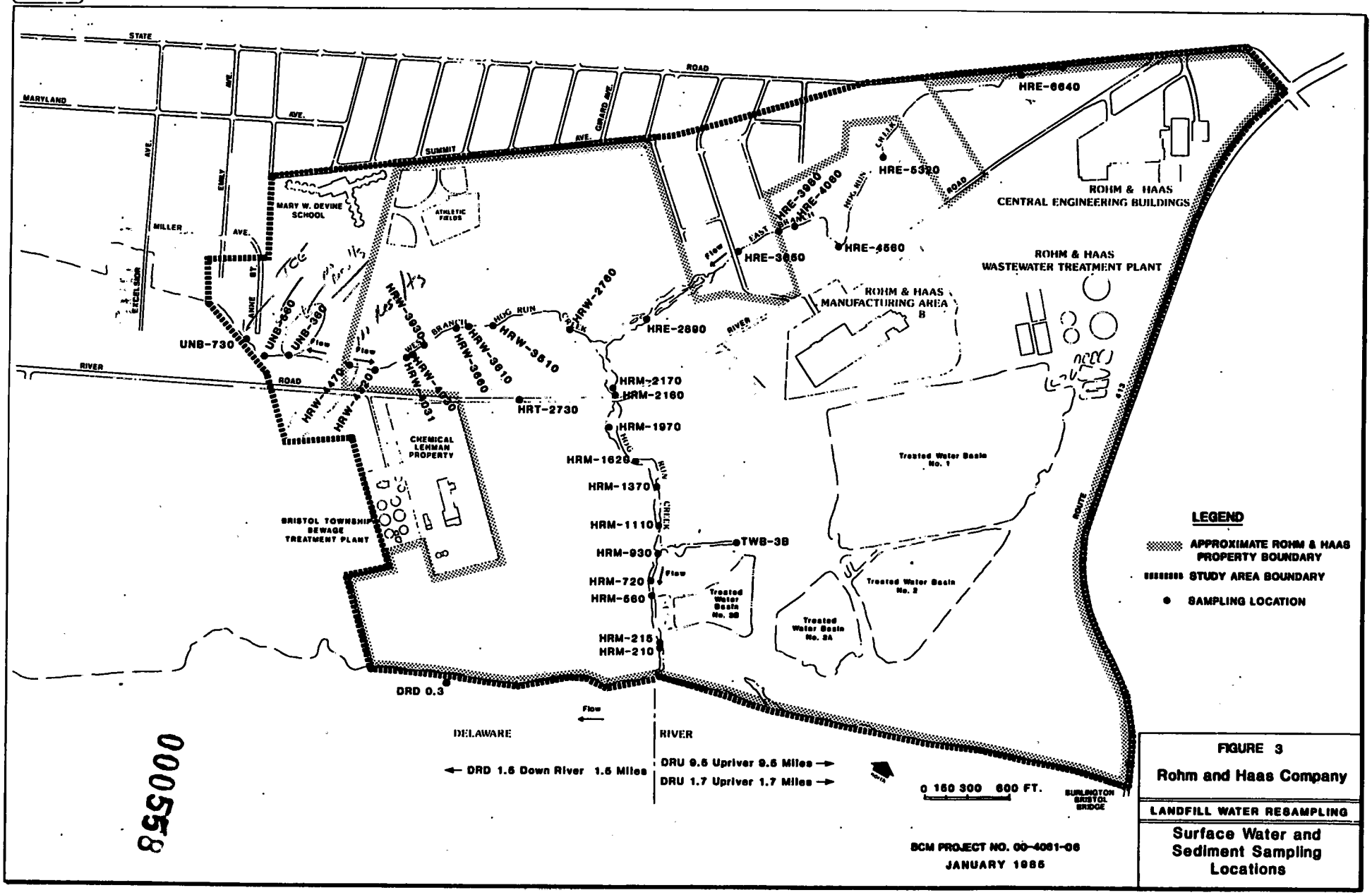


FIGURE 3

Rohm and Haas Company

LANDFILL WATER RESAMPLING

Surface Water and Sediment Sampling Locations

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JANUARY 1985

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CH: (Do. attachment from LF Inv. Document

BCM Engineers Planners and Scientists

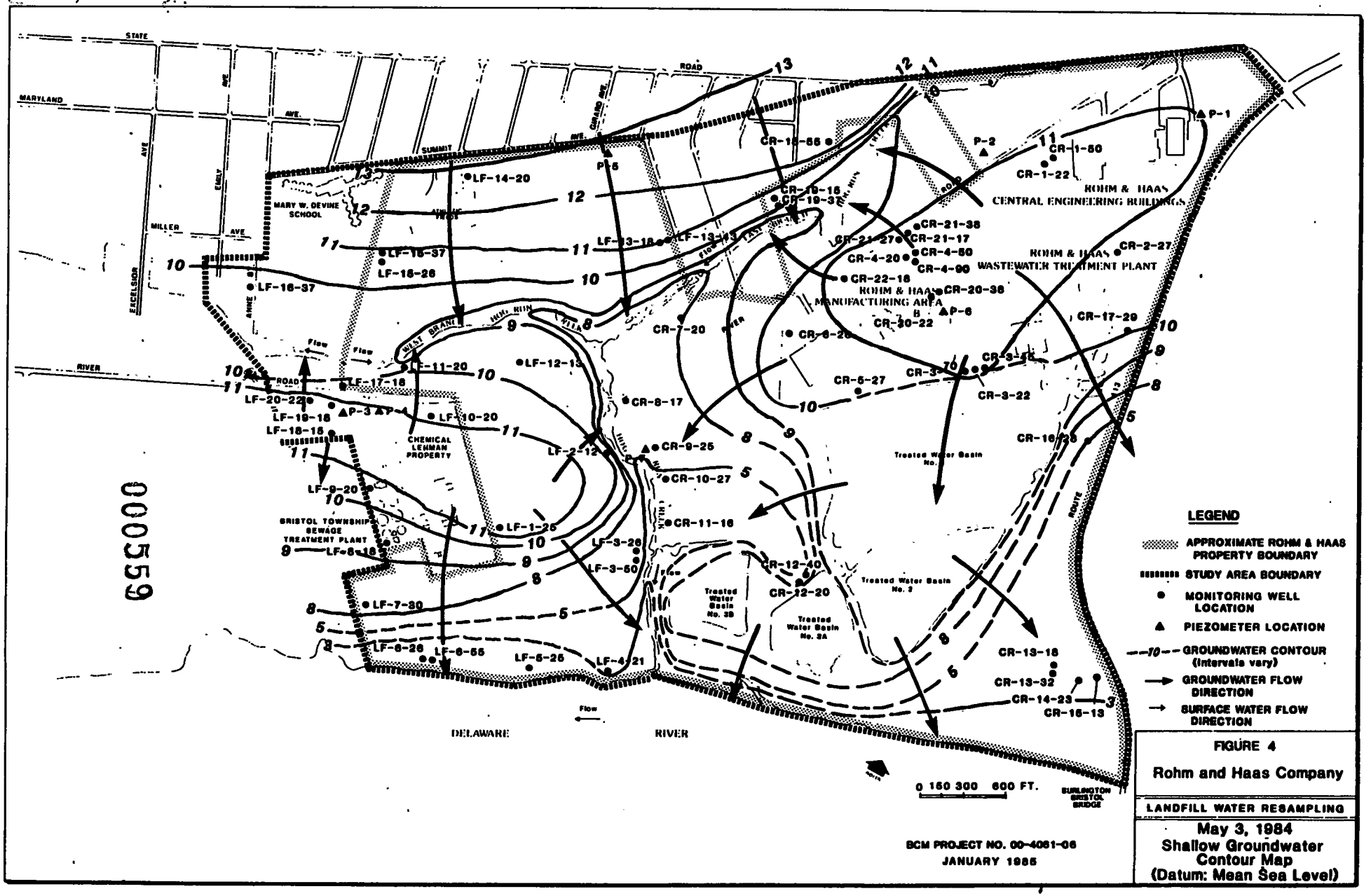

FIGURE 4

Rohm and Haas Company

LANDFILL WATER RESAMPLING

May 3, 1984
Shallow Groundwater Contour Map
(Datum: Mean Sea Level)

BCM PROJECT NO. 00-4061-06
JANUARY 1985

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BCM Engineers Planners and Scientists

Exhibit attached

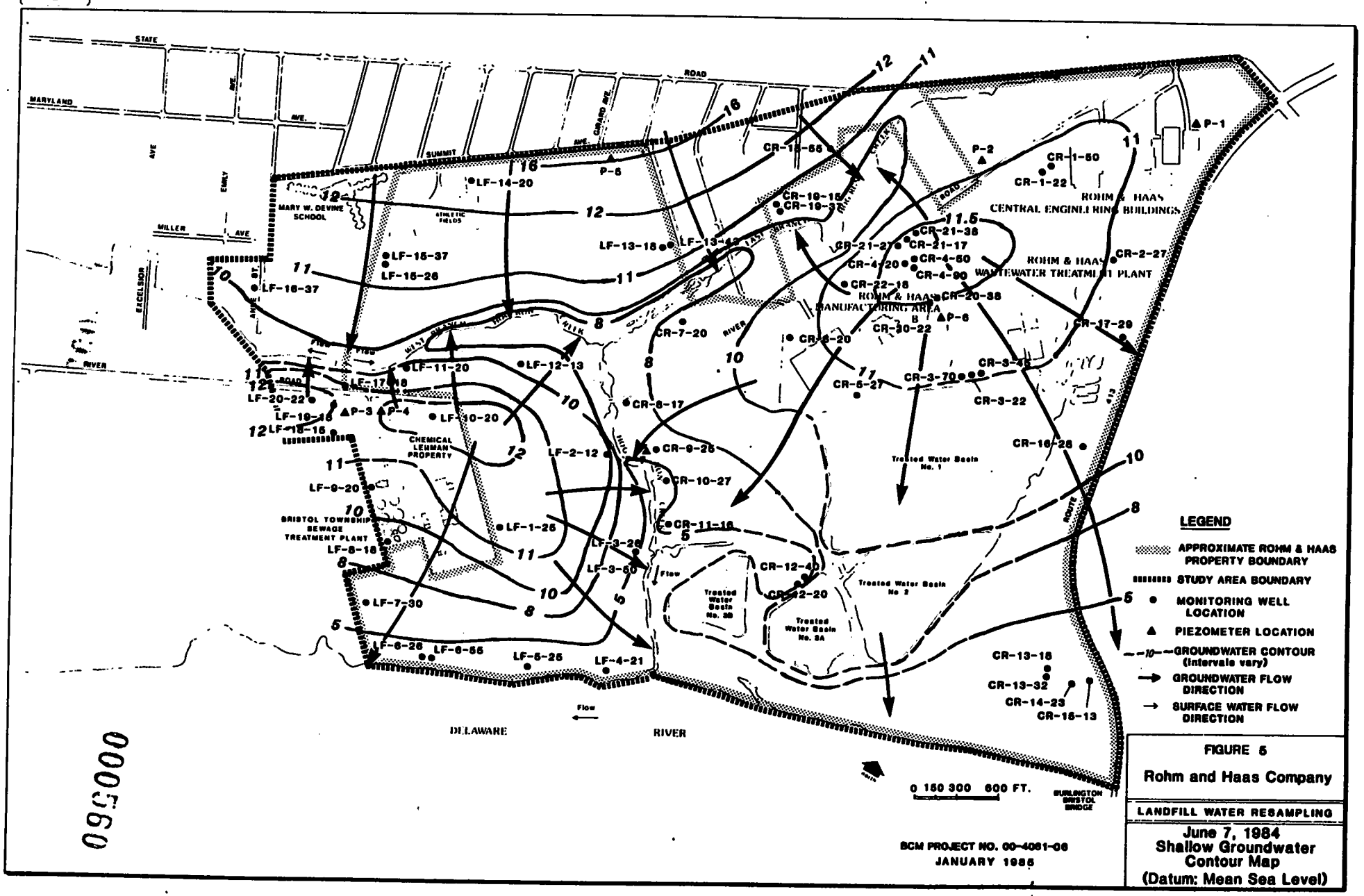

FIGURE 5

Rohm and Haas Company

LANDFILL WATER RESAMPLING

June 7, 1984
Shallow Groundwater Contour Map
(Datum: Mean Sea Level)

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JANUARY 1985

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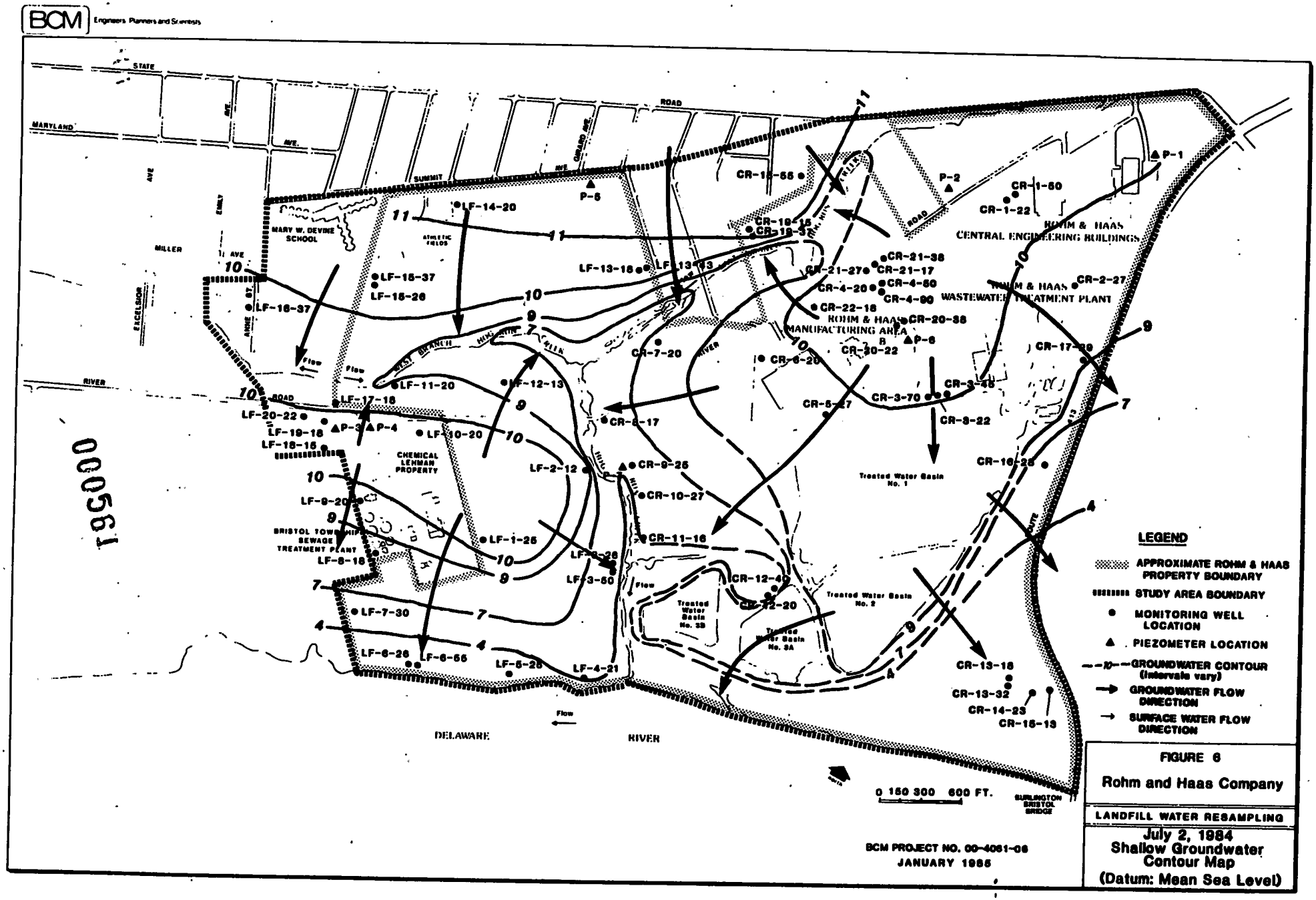

BCM Engineers Planners and Scientists
STATE
MARYLAND
ROAD
SUMMIT
GRAND AVE
MARY W. DEVINE SCHOOL
ATHLETIC FIELDS
MILLER
EXCELSIOR
ANNE ST
EMILY
RIVER
WEST BRANCH
MILL RUN
ROHM & HAAS CENTRAL ENGINEERING BUILDINGS
ROHM & HAAS WASTEWATER TREATMENT PLANT
ROHM & HAAS MANUFACTURING AREA
CHEMICAL LEHMAN PROPERTY
BRISTOL TOWNSHIP SEWAGE TREATMENT PLANT
Treated Water Basin No. 1
Treated Water Basin No. 2
Treated Water Basin No. 3B
Treated Water Basin No. 3A
DELAWARE
RIVER
BURLINGTON BRISTOL BRIDGE
Flow
0 150 300 600 FT.
LEGEND
APPROXIMATE ROHM & HAAS PROPERTY BOUNDARY
STUDY AREA BOUNDARY
MONITORING WELL LOCATION
PIEZOMETER LOCATION
GROUNDWATER CONTOUR (Intervals vary)
GROUNDWATER FLOW DIRECTION
SURFACE WATER FLOW DIRECTION
FIGURE 6
Rohm and Haas Company
LANDFILL WATER RESAMPLING
July 2, 1984
Shallow Groundwater Contour Map
(Datum: Mean Sea Level)
BCM PROJECT NO. 00-4061-06
JANUARY 1985

BCM Engineers Planners and Scientists

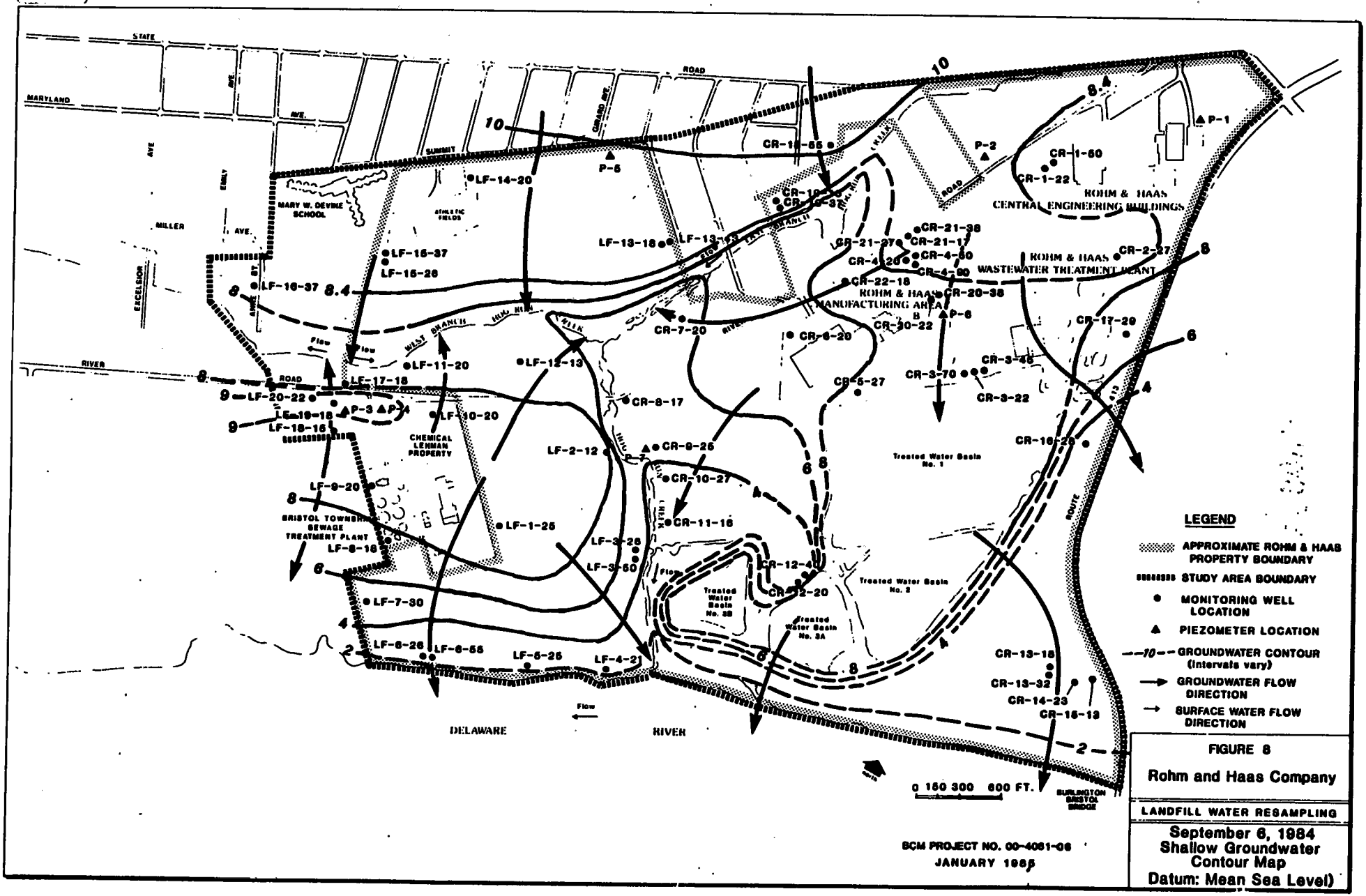


FIGURE 8

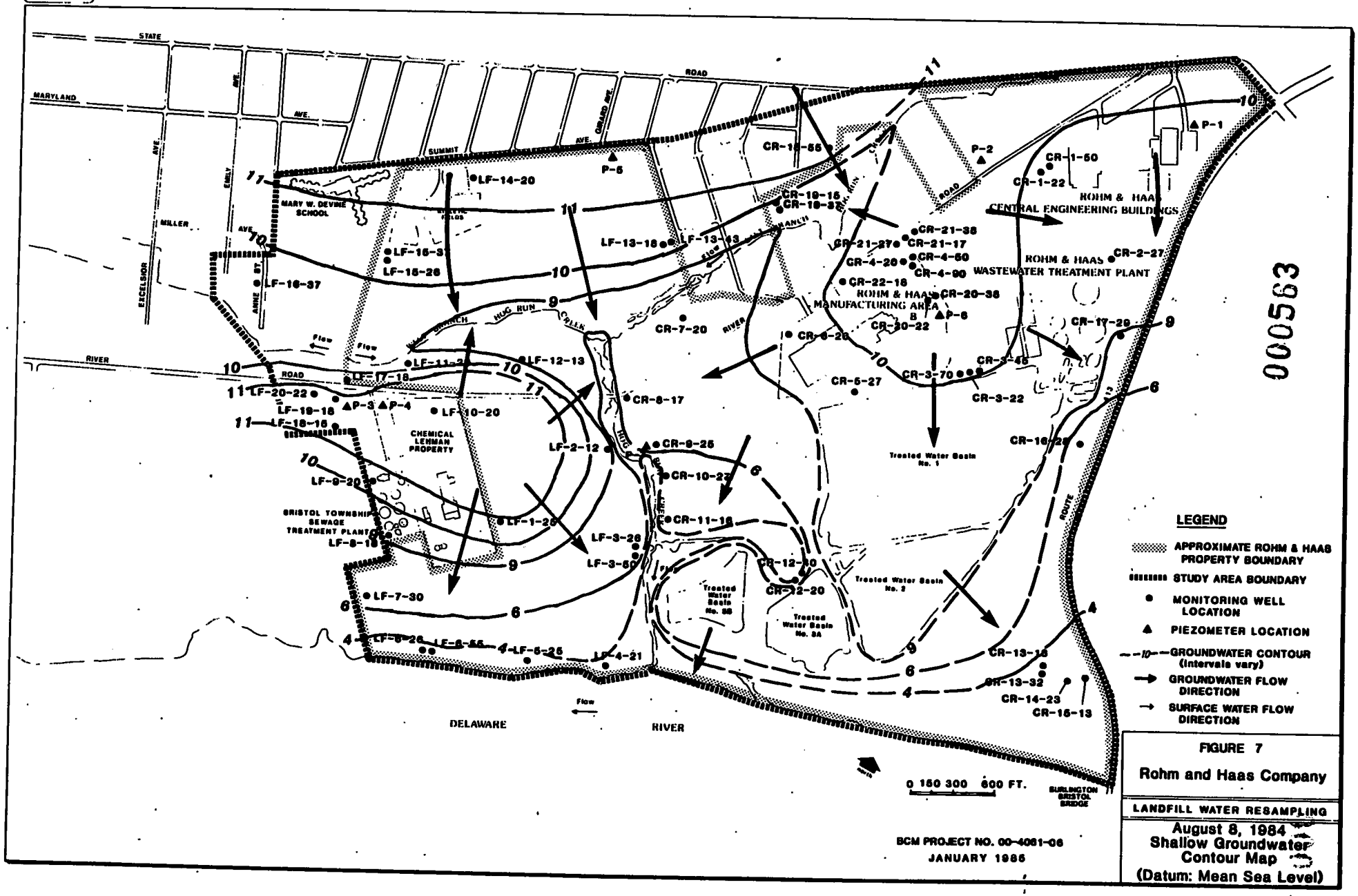
Rohm and Haas Company

LANDFILL WATER RESAMPLING

September 6, 1984
Shallow Groundwater
Contour Map
Datum: Mean Sea Level)

BCM PROJECT NO. 00-4061-06
JANUARY 1985

BCM Engineers Planners and Scientists



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LEGEND

- APPROXIMATE ROHM & HAAS PROPERTY BOUNDARY
- STUDY AREA BOUNDARY
- MONITORING WELL LOCATION
- PIEZOMETER LOCATION
- --10-- GROUNDWATER CONTOUR (Intervals vary)
- GROUNDWATER FLOW DIRECTION
- SURFACE WATER FLOW DIRECTION

BCM PROJECT NO. 00-4061-06
JANUARY 1985

FIGURE 7

Rohm and Haas Company

LANDFILL WATER RESAMPLING

August 8, 1984
Shallow Groundwater Contour Map
(Datum: Mean Sea Level)

BCM Engineers Planners and Scientists

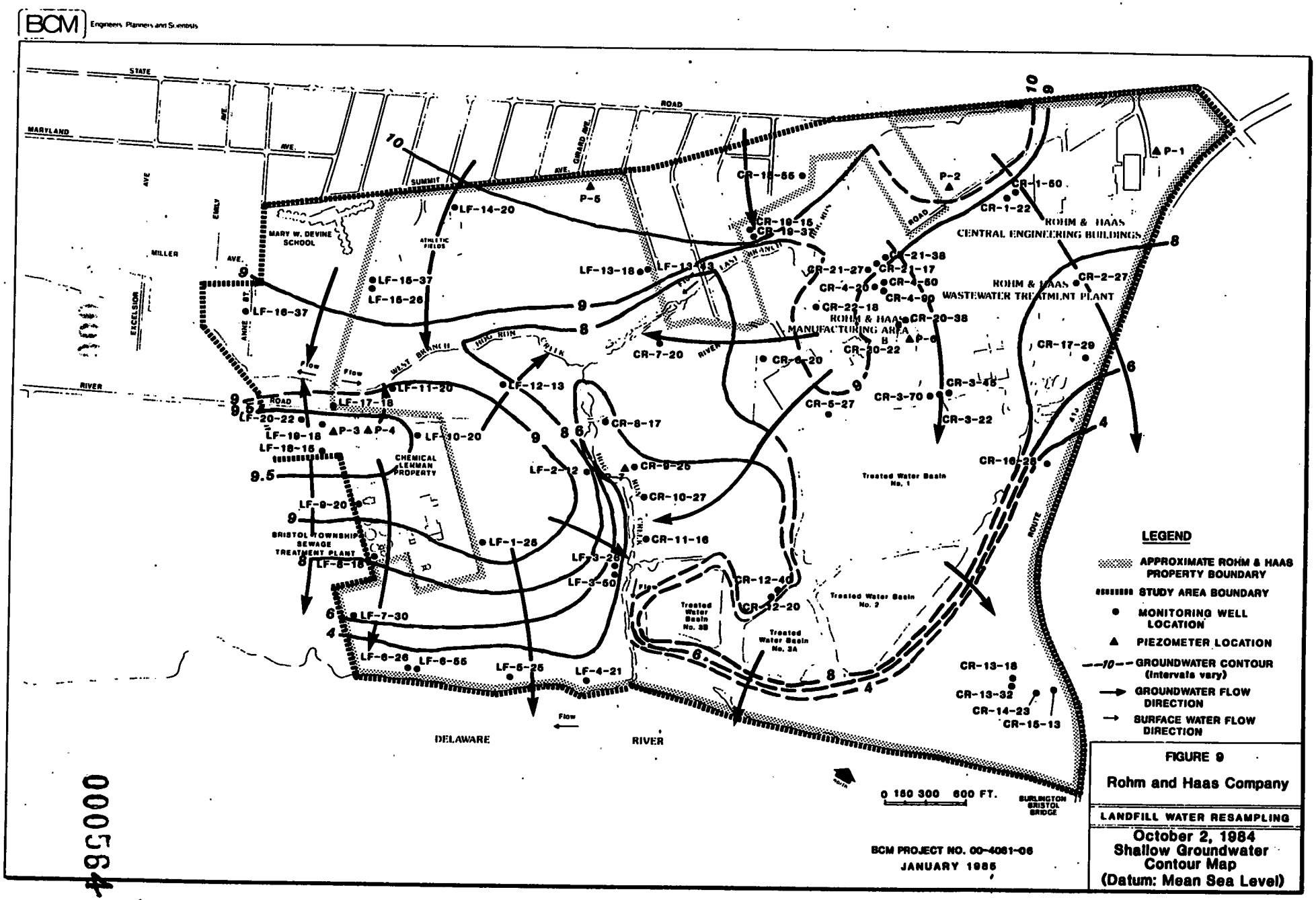

FIGURE 9

Rohm and Haas Company

LANDFILL WATER RESAMPLING

October 2, 1984
Shallow Groundwater Contour Map
(Datum: Mean Sea Level)

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JANUARY 1985

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BCM Engineers Planners and Scientists

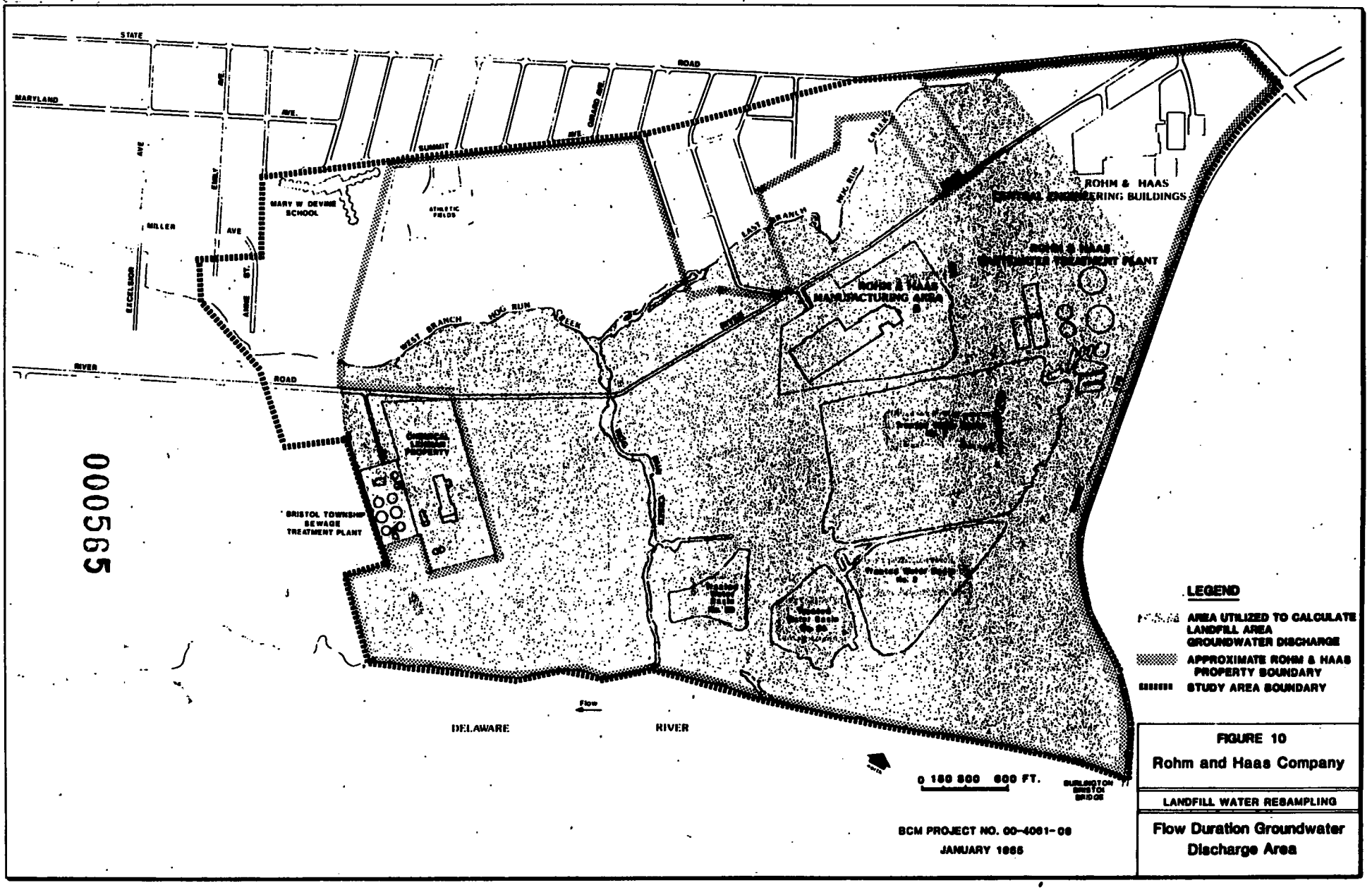

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FIGURE 10

Rohm and Haas Company

LANDFILL WATER RESAMPLING

Flow Duration Groundwater Discharge Area

BCM PROJECT NO. 00-4061-08

JANUARY 1985

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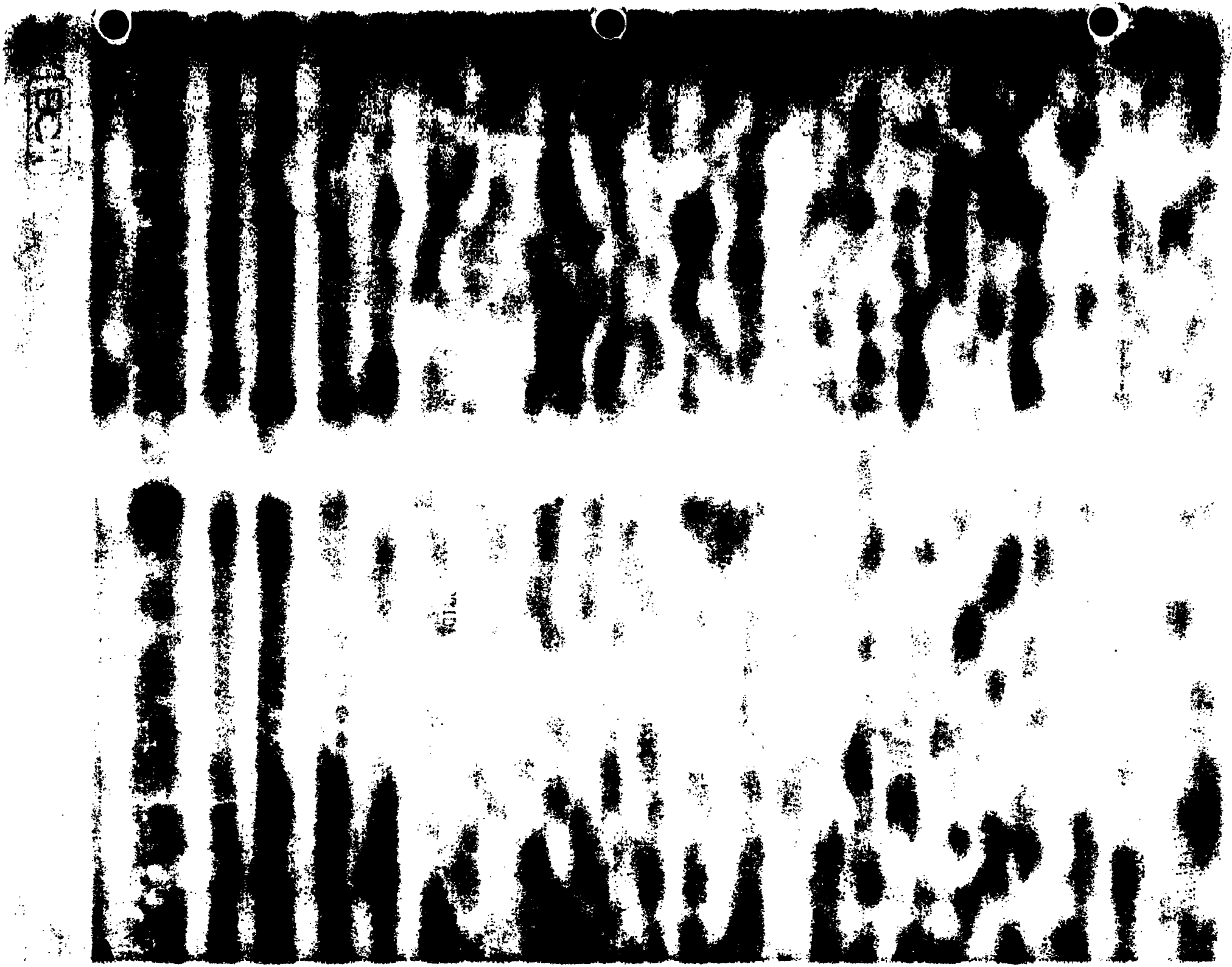
APPENDIX A

BCM SAMPLE PRESERVATION GUIDE



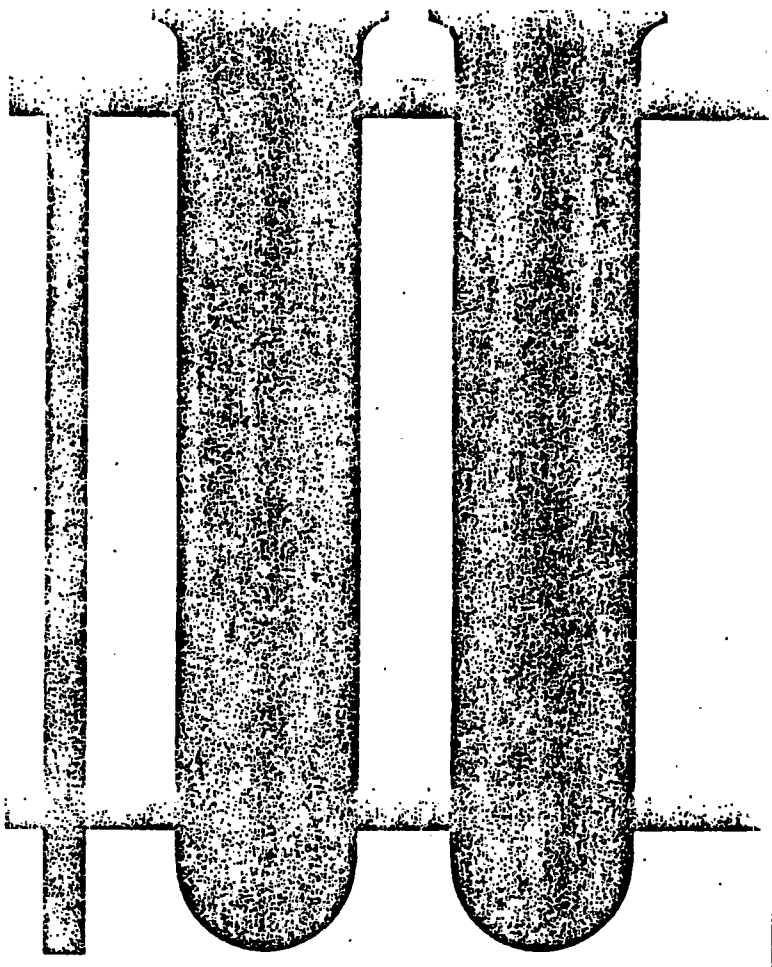
BCM

Sample Collection & Preservation Guide

ANALYTICAL LABORATORY SERVICES

Biological Toxicity & Environmental Impact Testing
Potable & Groundwater Contamination Analysis
Hazardous & Toxic Wastes Analysis
Wastewater & NPDES Testing
Solids & Sediments Analysis
Fuels & Materials Testing
Air & OSHA Services
Mining Services

- special ship-paks for distant locations
- sampling & technical service
- full EPA certification
- sample pick-up service



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BCM LABORATORY DIVISION

SAMPLE COLLECTION AND PRESERVATION GUIDE

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time	Lower Detection Limit mg/l
Acidity, as $CaCO_3$	mg/l	-	Cool at 4°C	100 ml	G or P	24 hrs.	1
Alkalinity, as $CaCO_3$	mg/l	-	Cool at 4°C	100 ml	G or P	24 hrs.	1
Aluminum, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.25
Antimony, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.125
Arsenic, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.001
Bacteriological							
Coliform, fecal	No./100 ml	Samples must be obtained in sterile bottles. For chlorinated waters, use sodium thiosulfate	Cool at 4°C immediately after sampling	300 ml	G or P sterile	6 hrs.	-
Coliform, total	MPN						-
Streptococci, fecal	No./100 ml						-
Total Count	No./ml						-
Barium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.2
Barium, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.01
Beryllium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.01
BOD_5	mg/l	-	Cool at 4°C	500 ml(1)	G or P	24 hrs.	2 to 4
BOD_{5+20}	mg/l	-	Cool at 4°C	500 ml(1)	G or P	24 hrs.	2 to 4
Boron, total	mg/l	see "Metals"*	HNO_3 to pH<2	10 ml	G or P	6 mos.	0.1
Bromide	mg/l	-	Cool at 4°C	100 ml	G or P	24 hrs.	2.0
Cadmium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.005

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Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time	Lower Detection Limit mg/l
Cadmium, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.0002
Calcium, total (by AA)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.02
Calcium, as $CaCO_3$ (titration)	mg/l	-	HNO_3 to pH<2	100 ml	G or P	6 mos.	0.5
Carbon, organic	mg/l	-	Cool at 4°C and HCl or H_2SO_4 to pH<2	25 ml	G or P	24 hrs.	1
COD	mg/l	-	H_2SO_4 to pH<2	50 ml	G or P	7 days	5
Chloride	mg/l	-	None required	100 ml	G or P	7 days	0.5
Chlorine, requirement or demand	-	Best determined on site	Cool at 4°C	1000 ml	G or P	None	-
Chromium, hexavalent	mg/l	see "Metals"*	Cool at 4°C	100 ml(1)	G or P	48 hrs.	0.02
Chromium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.02
Chromium, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.002
Cobalt, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.05
Color, Pt/Co standards	-	Use very clean	Cool at 4°C	50 ml(2)	G or P	48 hrs.	-
Color, tristimulus photometer	-	glassware		100 ml(2)	G or P	48 hrs.	-
Copper, total	mg/l	see "Metals"*	see "Metals"*	200 ml(1)	G or P	6 mos.	0.03
Cyanide, total	mg/l	-	Add NaOH to pH 12 and cool at 4°C	500 ml(1)	P or G	24 hrs.	0.005
Cyanide amenable to chlorination	mg/l	For chlorinated waters, use Thiosulfate		1000 ml(1)	P or G	24 hrs.	0.005

Dissolved Oxygen Probe	mg/l	Determine on site	None satisfactory	500 ml	G bottle & top	None	-
Winkler	mg/l	Exclude air by filling bottle completely	Fix on site	500 ml	G bottle & top	4-8 hrs.	-
Fluoride, distilled, photometric	mg/l	-		300 ml(1)	P	7 days	0.1
Fluoride, distilled, probe	mg/l	-	None required	300 ml(1)	P	7 days	0.1
Fluoride, nondistilled, probe	mg/l	-		50 ml(1)	P	7 days	0.1
Gold, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.25
Hardness, total $CaCO_3$	mg/l	-	HNO_3 to pH<2	100 ml	G or P	6 mos.	1
Iron, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.04
Lead, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.1
Lead, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.002
Lithium	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.007
Magnesium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.002
Magnesium, hardness, as $CaCO_3$	mg/l		HNO_3 to pH<2	100 ml	G or P	6 mos.	1
Manganese, total	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.014
Mercury, total	mg/l	see "Metals"*	HNO_3 to pH<2 0.05% $K_2Cr_2O_7$	200 ml(1)	G or P	38 days (glass) 13 days (plastic)	0.00005
Molybdenum, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.5
Nickel, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.1

000570

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time	Lower Detection Limit mg/l
Nitrogen, ammonia, distilled	mg N/l	Exclude air by filling bottle completely	H_2SO_4 to pH<2 and cool at 4°C	500 ml(1)	G or P	24 hrs.	0.05
Nitrogen, ammonia, direct Nessler	mg N/l			50 ml	G or P	24 hrs.	0.05
Nitrogen, nitrate	mg N/l	-	Cool at 4°C	100 ml	G or P	24 hrs.	0.01
Nitrogen, nitrite	mg N/l	-	Cool at 4°C	50 ml	G or P	48 hrs.	0.05
Nitrogen, organic	mg N/l	-	H_2SO_4 to pH<2 and cool at 4°C	600 ml(1)	G or P	24 hrs.	0.05
Nitrogen, total (Kjeldahl)	mg N/l	-		100 ml(1)	G or P	24 hrs.	0.05
Odor	Threshold odor number	Collect in glass bottles with glass or Teflon closure	No satisfactory method	200 ml	G only	24 hrs.	-
Oil and Grease	mg/l	-	2 ml H_2SO_4 or HCl per liter (pH2) and cool to 4°C	1000 ml(1)	G only	24 hrs.	1
pH	-	Best determined on-site	No satisfactory method	100 ml(2)	G or P	6 hrs.	-
Phenols	mg/l	-	Cool at 4°C and add H_3PO_4 to pH<4 1.0 g $CuSO_4$ 1 liter	1000 ml(1)	G only	24 hrs.	0.002
Phosphorus, ortho	mg P/l	Filter on-site	Cool at 4°C	50 ml	G or P	24 hrs.	0.01
Phosphorous (hydrolyzable)	mg/l	-	Cool at 4°C and H_2SO_4 to pH<2	100 ml	G or P	24 hrs.	0.01
Phosphorous (total)	mg/l	-	Cool at 4°C H_2SO_4 to pH<2	50 ml	G or P	24 days	0.01

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Potassium, total (AA)	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.004
Selenium, total (AA)	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.001
Silica, dissolved	mg/l	-	Cool at 4° C	50 ml	P only	7 days	1
Silver, total	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.02
Silver, total (drinking water)	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.001
Sodium, total (AA)	mg/l	see "Metals"*	see "Metals"*	100 ml	G or P	6 mos.	0.002
Solids, total	mg/l	Nonhomogeneous solids: leaves, sticks, fish, fecal lumps should be excluded from the sample	Cool at 4°C	100 ml	G or P	7 days	1
Solids, total, volatile	mg/l					7 days	
Solids, dissolved	mg/l					7 days	
Solids, dissolved, volatile	mg/l					7 days	
Solids, suspended	mg/l					7 days	
Solids, suspended, volatile	mg/l					7 days	
Solids, settleable	ml/l			1000 ml	G or P	24 hrs.	1 ml/l
Specific conductance	umhos/cm at 25°C	-	Cool at 4°C	100 ml(2)	G or P	24 hrs.	-
Sulfate, as SO_4	mg/l	-	Cool at 4°C	50 ml	G or P	7 days	1
Sulfide, as S	mg/l	Fill bottle to exclude air	2 to 5 ml 2N Zinc acetate per liter and cool at 4°C	500 ml	G or P	24 hrs.	1
Sulfite, as SO_3	mg/l	Best done in field	No satisfactory method	50 ml	G or P	None	2
Surfactant (MBAS)	mg/l	-	Cool at 4°C	250 ml	G or P	24 hrs.	0.025
Thallium	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.14
Tin, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.50

000572

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time	Lower Detection Limit mg/l
Titanium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	1.0
Turbidity	Turbidity units	-	Cool at 4°C	100 ml(2)	G or P	7 days	-
Vanadium, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.5
Zinc, total	mg/l	see "Metals"*	see "Metals"*	100 ml(1)	G or P	6 mos.	0.004
Radioactivity Alpha, beta, and radium	-	-	Add HNO_3 to pH<2	2000 ml	G or P	6 mos.	-
Asbestos Water	-	Do not fill bottle completely	Add 1 ml 2.71% $HgCl_2$ and cool at 4°C	1000 ml	P only	Analyze as soon as possible	-
Solid	-	-	None required	100 grams	P only	-	-
Organics (GC) Purgeable, halocarbons (EPA Procedure 601)	PPB	Exclude air from bottle	Sodium thiosulfate if chlorinated Cool at 4°C	40 ml	G vial Teflon-lined septum	14 days	
Purgeable, aromatics (EPA Procedure 602)	PPB	Exclude air from bottle	HCl to pH2 sodium thiosulfate Cool at 4°C	40 ml	G vial Teflon-lined septum	7 days	
Acrolein/ Acrylonitrile (EPA Procedure 603)	PPB	Exclude air from bottle	NaOH/H_2SO_4 to pH 6.5-7.5 Cool at 4°C	40 ml	G vial Teflon-lined septum	3 days	

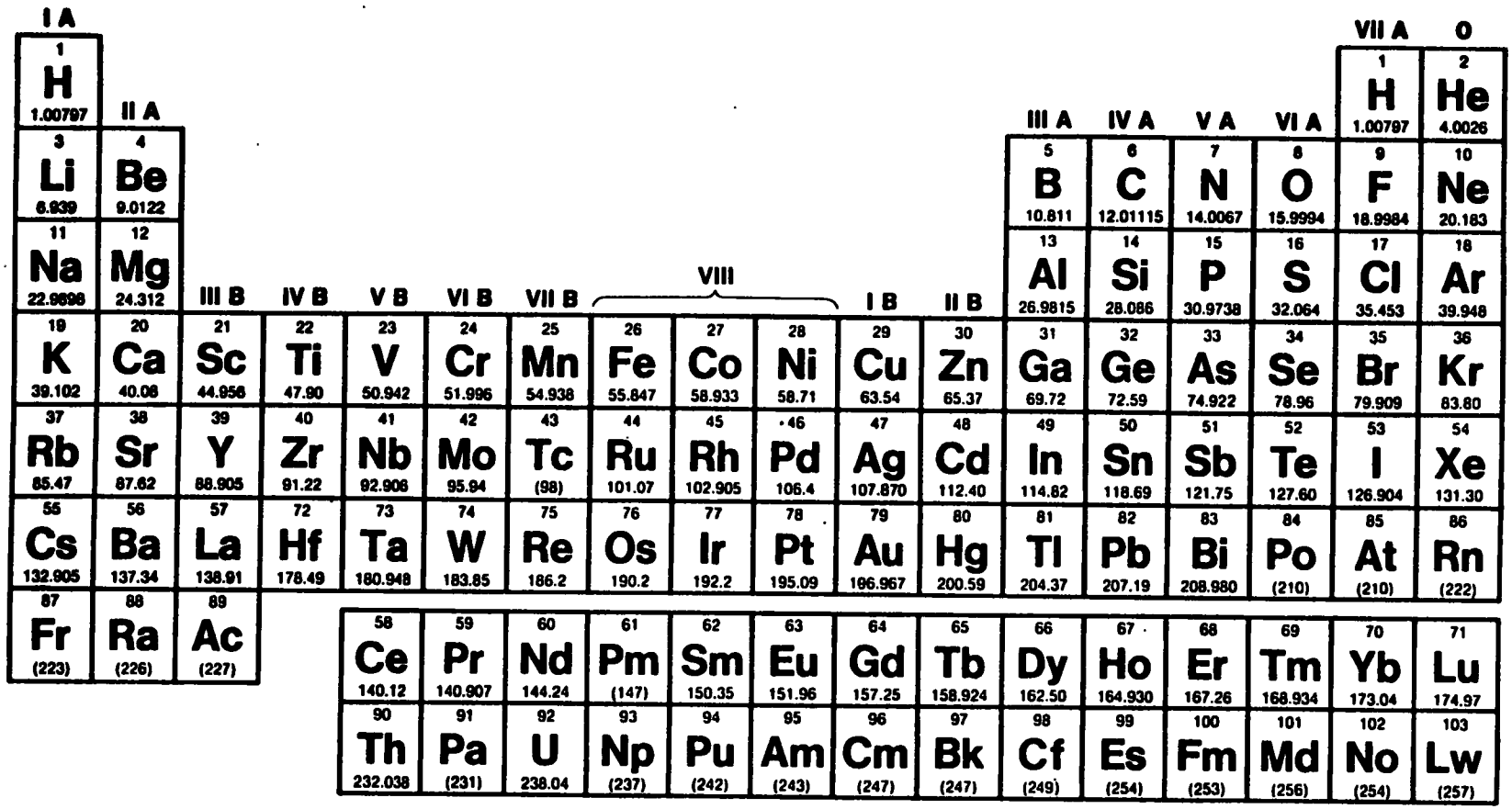
000573

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time
Phenols (EPA Procedure 604)	PPB	-	Sodium thiosulfate	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Benzidines (EPA Procedure 605)	PPB	-	N_2SO_4 to pH<2 and cool at 4°C	500 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Phthalate esters (EPA Procedure 606)	PPB	-	NaOH/H_2SO_4 to pH 6-8 and cool at 4°C	500 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Nitrosamines (EPA Procedure 607)	PPB	-	NaOH/N_2SO_4 to pH 7-10 and cool at 4°C	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Pesticides & PCBs (EPA Procedure 608)	PPB	-	Cool at 4°C Sodium thiosulfate NaOH/H_2SO_4 to pH 6-8	(2) 1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Nitroaromatics & Isophorone (EPA Procedure 609)	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Polynuclear Aromatic Hydrocarbons (EPA Procedure 610)	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Haloethers	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Chlorinated Hydrocarbons (EPA Procedure 611)	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
TCDD (Screening) (EPA Procedure 612)	PPB	-	"	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Organics (GC/MS)						
Purgeables (EPA Procedure 624)	PPB	Exclude air from bottle	Sodium thiosulfate and cool at 4°C	40 ml	G vial Teflon-lined septum	14 days

000574

Test for -	Reported as -	Sampling Tips	Preservation	Minimum Sample Volume	Container G - Glass P - Plastic	Recommended Maximum Holding Time
Base Neutrals (EPA Procedure 625)	PPB	-	Sodium thiosulfate and cool at 4°C	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Acid Extractables (EPA Procedure 625)	PPB	-	Sodium thiosulfate, H_2SO_4 to pH<2 and cool at 4°C	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
TCDD (EPA Procedure 612)	PPB	-	Cool at 4°C and sodium thiosulfate	1000 ml	G with Teflon cap	7 days (until extraction) 30 days (after extraction)
Pesticides/PCBs (EPA Procedure 625)	PPB	-	Sodium thiosulfate, H_2SO_4 to pH<2 and cool at 4°C	1000 ml (2)	G with Teflon cap	7 days (until extraction) 30 days (after extraction)

000515



000576

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713-479-6084

B-0056

* Metals	For trace metals, contamination and loss are of prime concern. Sample containers should be scrupulously clean. Avoid contamination with dust. A well-mixed appropriate volume of sample should be acidified to about pH2 with nitric acid (usually 5 ml of concentrated acid will suffice). For dissolved metals, samples should be filtered immediately on-site before adding preservative.

000577

Footnotes

(1) The minimum sample volume given is for lower concentrations of the parameter under tests. For relatively high concentrations, smaller volumes may be sufficient.
(2) These tests are nondestructive, and the aliquots may be used for other tests not requiring specially preserved samples.

Protocol for microbiological, radiological, and organic parameters is based on proposed EPA Guidelines as published in the Dec. 19, 1979 Federal Register (40 CFR Part 136).

Preservation requirements for asbestos (in water) are based on the "Preliminary Interim Procedure for Fibrous Asbestos", U.S. EPA, Analytical Chemistry Branch, Athens, GA 30601.

All other analyses are based on protocol published in Chemical Methods for The Analysis of Water and Wastewater, U.S. EPA, 1974.

7/81 Rev.

BCM

APPENDIX B

SAMPLING BLANK ANALYTICAL RESULTS

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 30, 1984
SAMPLING BLANKS

	041984FB	042084FB	042384FB	042484FB
	04/19/84	04/20/84	04/23/84	04/24/84
	N406178 /	N406249 /	N406316 /	N406387 /
CATEGORY 3 PARAMETERS				
C69 TOTAL XYLENES	UG/L <1.0	<1.0	<1.0	<1.0
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V3 BENZENE	UG/L <1.0	<1.0	<1.0	<1.0
V4 BIS (CHLOROMETHYL) ETHER	UG/L <4.0	<4.0	<4.0	<4.0
V5 BROMOFORM	UG/L <1.0	<1.0	<1.0	<1.0
V6 CARBON TETRACHLORIDE	UG/L <1.0	<1.0	<1.0	<1.0
V7 CHLOROBENZENE	UG/L <1.0	<1.0	<1.0	<1.0
V9 CHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V11 CHLOROFORM	UG/L <1.0	<1.0	<1.0	<1.0
V12 BROMODICHLOROMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V14 1,1-DICHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V15 1,2-DICHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V16 1,1-DICHLOROETHYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V17 1,2-DICHLOROPROPANE	UG/L <1.0	<1.0	<1.0	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE *	UG/L <1.0	<1.0	<1.0	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V20 ETHYLBENZENE	UG/L <1.0	<1.0	<1.0	<1.0
V21 BROMOMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V22 CHLOROMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V23 METHYLENE CHLORIDE	UG/L 2.9	4.0	4.1	1.7
V25 TETRACHLOROETHYLENE **	UG/L <1.0	<1.0	<1.0	<1.0
V26 TOLUENE	UG/L 301.0	<1.0	<1.0	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V28 1,1,1-TRICHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V30 TRICHLOROETHYLENE	UG/L <1.0	<1.0	<1.0	1.8
V31 TRICHLOROFLUOROMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V32 VINYL CHLORIDE	UG/L <1.0	<1.0	NT	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SAMPLING BLANKS

OCT 30, 1984

			041984FB 04/19/84	042084FB 04/20/84	042384FB 04/23/84	042484FB 04/24/84
			N406178 /	N406249 /	N406316 /	N406387 /
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS						
B21	1,3-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0

000579

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 30, 1984
SAMPLING BLANKS

		042584FB	042584TB	042684FB	042784FB
		04/25/84	04/25/84	04/26/84	04/27/84
		N406460 /	N406459 /	N406524 /	N406796 /
	CATEGORY 3 PARAMETERS				
C69	TOTAL XYLENES	UG/L <1.0	<1.0	<1.0	<1.0
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V3	BENZENE	UG/L <1.0	<1.0	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L <4.0	<4.0	<4.0	<4.0
V5	BROMOFORM	UG/L <1.0	<1.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L <1.0	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L <1.0	<1.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V11	CHLOROFORM	UG/L 7.7	6.2	<1.0	4.2
V12	BROMODICHLOROMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V14	1,1-DICHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L <1.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L <1.0	<1.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L <1.0	<1.0	<1.0	<1.0
V21	BROMOMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L 24.8	6.2	14.1	<1.0
V25	TETRACHLOROETHYLENE **	UG/L <1.0	<1.0	<1.0	<1.0
V26	TOLUENE	UG/L <1.0	<1.0	<1.0	3.5
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L <1.0	<1.0	<1.0	1.5
V31	TRICHLOROFLUOROMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L <1.0	<1.0	<1.0	<1.0

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SAMPLING BLANKS

OCT 30, 1984

			042584FB	042584TB	042684FB	042784FB
			04/25/84	04/25/84	04/26/84	04/27/84
			N406460 /	N406459 /	N406524 /	N406796 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS.					
B21	1,3-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 30, 1984
SAMPLING BLANKS

		050284FB	050384FB	050484FB	050484TB
		05/02/84	05/03/84	05/04/84	05/04/84
		N406981 /	N407066 /	N407159 /	N407160 /
	CATEGORY 3 PARAMETERS				
C69	TOTAL XYLENES	UG/L <1.0	<1.0	<1.0	<1.0
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V3	BENZENE	UG/L <1.0	<1.0	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L <4.0	<4.0	<4.0	<4.0
V5	BROMOFORM	UG/L <1.0	<1.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L <1.0	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L <1.0	<1.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V11	CHLOROFORM	UG/L 1.6	2.0	7.2	2.7
V12	BROMODICHLOROMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V14	1,1-DICHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L <1.0	2.1	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L <1.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L <1.0	<1.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L <1.0	<1.0	<1.0	<1.0
V21	BROMOMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L <1.0	<1.0	32.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L <1.0	<1.0	<1.0	<1.0
V26	TOLUENE	UG/L <1.0	<1.0	<1.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L <1.0	<1.0	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L <1.0	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L <1.0	<1.0	<1.0	<1.0

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

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000583

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SAMPLING BLANKS

OCT 30, 1984

			050284FB	050384FB	050484FB	050484TB
			05/02/84	05/03/84	05/04/84	05/04/84
			N406981 /	N407066 /	N407159 /	N407160 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
821	1,3-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
822	1,4-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SAMPLING BLANKS

OCT 30, 1984

			050784FB	050984FB	052184FB	052284FB
			05/07/84	05/09/84	05/21/84	05/22/84
			N407242 /	N407331 /	N408041 /	N408133 /
	CATEGORY 3 PARAMETERS					
C69	TOTAL XYLENES	UG/L	<1.0	1.6	<1.0	<1.0
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V3	BENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<4.0	<4.0	<4.0	<4.0
V5	BROMOFORM	UG/L	<1.0	<1.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V11	CHLOROFORM	UG/L	1.3	4.7	<1.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<1.0	2.6	<1.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<1.0	<1.0	<1.0	<1.0
V26	TOLUENE	UG/L	<1.0	<1.0	<1.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SAMPLING BLANKS

OCT 30, 1984

			050784FB	050984FB	052184FB	052284FB
			05/07/84	05/09/84	05/21/84	05/22/84
			N407242 /	N407331 /	N408041 /	N408133 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
821	1,3-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
822	1,4-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SAMPLING BLANKS

OCT 30, 1984

		052384FB	052984FB	053184FB	
		05/23/84	05/29/84	05/31/84	
		N408167 /	N408475 /	N408644 /	/
	CATEGORY 3 PARAMETERS				
C69	TOTAL XYLENES	UG/L	<1.0	<1.0	<1.0
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V3	BENZENE	UG/L	<1.0	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<4.0	<4.0	<4.0
V5	BROMOFORM	UG/L	<1.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
V11	CHLOROFORM	UG/L	4.1	<1.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<1.0	<1.0	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<1.0	1.3	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<1.0	<1.0	<1.0
V26	TOLUENE	UG/L	<1.0	<1.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SAMPLING BLANKS

OCT 30, 1984

			052384FB 05/23/84	052984FB 05/29/84	053184FB 05/31/84	
			N408167 /	N408475 /	N408644 /	/
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B21	1,3-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	
B22	1,4-DICHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SAMPLING BLANKS

OCT 30, 1984

	072684FB	072684TB		
	07/26/84	07/26/84		
	N412049 /	N412050 /	/	/

CATEGORY 3 PARAMETERS

C69	TOTAL XYLENES	UG/L	<1.0	<1.0

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V3	BENZENE	UG/L	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<4.0	<4.0
V5	BROMOFORM	UG/L	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<1.0
V11	CHLOROFORM	UG/L	<1.0	1.9
V12	BROMODICHLOROMETHANE	UG/L	<1.0	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<1.0	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<1.0	3.2
V25	TETRACHLOROETHYLENE **	UG/L	<1.0	<1.0
V26	TOLUENE	UG/L	<1.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLORETHYLENE.

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000589

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SAMPLING BLANKS

OCT 30, 1984

			072684FB 07/26/84	072684TB 07/26/84		
			N412049 /	N412050 /	/	/
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B21	1,3-DICHLOROBENZENE	UG/L	<1.0	<1.0		
B22	1,4-DICHLOROBENZENE	UG/L	<1.0	<1.0		

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

			CR-4-50 10/27/83	CR-4-50 04/27/84	CR-4-50 (DUP.) 04/27/84
			N313537 /N313542	N406684 /N406688	N406686 /N406690 /
			CATEGORY 1 PARAMETERS		
C1	TOTAL ORGANIC CARBON	MG/L	416.0	76.0	46.0
C2	TOTAL ORGANIC HALIDE	UG/L	247.0	165.0	<20.0
C3	BOD	MG/L	170.0	32.0	27.0
C4	COD	MG/L	685.0	175.0	146.0
C5	SPECIFIC CONDUCTANCE	UMHOS	2100.0	416.0	341.0
C6	PH	SU	6.0	6.3	6.2
C7	TEMPERATURE	DEG. C	13.0	12.8	12.8
			CATEGORY 2 PARAMETERS		
C8	NITROGEN, AMMONIA	MG/L	200.0	45.0	38.0
C9	BORON	MG/L	<.002	<.1	<.1
C10	CHLORIDE	MG/L	19.6	11.2	13.1
C11	FLUORIDE	MG/L	.1	<1.0	<.1
C12	IRON	MG/L	5.16	5.38	4.9
C14	NITRATE	MG/L	2.39	.24	.5
C15	PHOSPHATE	MG/L	<.01	.13	.05
C16	SULFATE	MG/L	363.0	53.5	54.5
C17	SODIUM	MG/L	99.1	6.1	6.85
C18	POTASSIUM	MG/L	3.59	2.29	2.37
C43	BARIUM (GF)	MG/L	.034	.025	.029
C52	MANGANESE	MG/L	1.72	.77	.74
C60	SULFIDE AS S	MG/L	<1.2	1.0	2.0
C61	TIN	MG/L	<1.0	<1.0	<1.0
			CATEGORY 3 PARAMETERS		
C19	OIL AND GREASE	MG/L	<1.0	<1.0	<1.0
C20	SURFACTANTS (MBAS)	MG/L	1.1	.29	.16
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

			CR-4-50 10/27/83	CR-4-50 04/27/84	CR-4-50 (DUP.) 04/27/84
			N313537 /N313542	N406684 /N406688	N406686 /N406690
				CATEGORY 3 PARAMETERS	
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	<1.0
C111	TOLUENE	MG/L	NT	<.1	<.1
				CATEGORY 4 - OTHER PARAMETERS	
T1	ANTIMONY	MG/L	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.001	.007	.009
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.0005	<.0005	<.0005
T5	CHROMIUM (GF)	MG/L	.013	.004	.004
T6	COPPER	MG/L	.05	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	<.002	<.002
T8	MERCURY	MG/L	<.0002	<.0002	<.0002
T9	NICKEL	MG/L	.1	<.1	.1
T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	.02	.22	<.01
T14	CYANIDE	MG/L	<.005	<.005	<.005

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

000592

			CR-4-50 10/27/83	CR-4-50 04/27/84	CR-4-50 (DUP.) 04/27/84
			N313537 /N313542	N406684 /N406688	N406686 /N406690 /
	CATEGORY 4 - OTHER PARAMETERS				
T15	PHENOLS	MG/L	<.024	.014	.017
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN	UG/L	<100.0	NT	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	NT
V3	BENZENE	UG/L	<10.0 <.1	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<4.0
V5	BROMOFORM	UG/L	<10.0 <.1	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0 <.1	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0 <.1	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0 <.1	<1.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	NT
V11	CHLOROFORM	UG/L	<10.0 .1	1.0***	1.3***
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0 <.1	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	13.0 1.6	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0 <.1	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0 <.1	<1.0	NT
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0 <.1	<1.0	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

000593

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

		CR-4-50 10/27/83	CR-4-50 04/27/84	CR-4-50 (DUP.) 04/27/84
		N313537 /N313542	N406684 /N406688	N406686 /N406690
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V22	CHLOROMETHANE	UG/L <10.0 <.1	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L <10.0 4.5***	16.8	9.3 <1.0
V25	TETRACHLORETHYLENE **	UG/L <10.0 <.1	1.3	1.8
V26	TOLUENE	UG/L <10.0 <.1	<1.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L <10.0 <.1	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L 60.0 30.5	30.1	35.9
V30	TRICHLOROETHYLENE	UG/L 470.0 180.0	197.0	233.0
V31	TRICHLOROFLUOROMETHANE	UG/L <10.0 <.1	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L <10.0 <.1	<1.0	<1.0
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	15.0	30.0	16.0

NT - NOT TESTED AS PART OF THIS STUDY.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLORETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

			CR-4-50 10/27/83	CR-4-50 04/27/84	CR-4-50 (DUP.) 04/27/84
			N313537 /N313542	N406684 /N406688	N406686 /N406690 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<.1 <10.0	<10.0 <1.0	<1.0 <10.0
B22	1,4-DICHLOROBENZENE	UG/L	<.1 <10.0	<10.0 <1.0	<1.0 <10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<.1	<10.0	<1.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<10.0	<10.0	<10.0
B38	ISOPHORONE	UG/L	<25.0	<25.0	<25.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 25, 1984
MONITORING WELL DATA

		CR-4-50 10/27/83	CR-4-50 04/27/84	CR-4-50 (DUP.) 04/27/84
		N313537 /N313542	N406684 /N406688	N406686 /N406690 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS			
B47	BENZO(B) FLUORANTHENE UG/L	NT	<10.0	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS			
A1	2-CHLOROPHENOL UG/L	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL UG/L	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL UG/L	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL UG/L	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL UG/L	<250.0	<250.0	<250.0
A6	2-NITROPHENOL UG/L	<25.0	<25.0	<25.0
A7	4-NITROPHENOL UG/L	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL UG/L	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL UG/L	<25.0	<25.0	<25.0
A10	PHENOL UG/L	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL UG/L	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P1	ALDRIN UG/L	<10.0	<10.0	<10.0
P2	ALPHA-BHC UG/L	<10.0	<10.0	<10.0
P3	BETA-BHC UG/L	<10.0	<10.0	<10.0
P4	GAMMA-BHC UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE UG/L	<10.0	<10.0	<10.0
P7	4,4'-DDT UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE UG/L	<10.0	<10.0	<10.0
P14	ENDRIN UG/L	<10.0	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 25, 1984
MONITORING WELL DATA

		CR-4-50 10/27/83	CR-4-50 04/27/84	CR-4-50 (DUP.) 04/27/84
		N313537 /N313542	N406684 /N406688	N406686 /N406690 /
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P15	ENDRIN ALDEHYDE	UG/L <10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L <10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L <10.0	<10.0	<10.0
P18	PCB-1242	UG/L <10.0	<10.0	<10.0
P19	PCB-1254	UG/L <10.0	<10.0	<10.0
P20	PCB-1221	UG/L <10.0	<10.0	<10.0
P21	PCB-1232	UG/L <10.0	<10.0	<10.0
P22	PCB-1248	UG/L <10.0	<10.0	<10.0
P23	PCB-1260	UG/L <10.0	<10.0	<10.0
P24	PCB-1016	UG/L <10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L <10.0	<10.0	<10.0
P26	2,4-D	UG/L <1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L <.5	<.5	<.5
	CATEGORY 5 PARAMETERS			
C53	GROSS A RADIOACTIVITY	PC I/L 25.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L 20.0	<3.0	5.0
C57	TOTAL RADIUM	PC I/L <1.0	<1.0	<1.0
	CATEGORY 6 PARAMETERS			
C63	DIOXIN	PPB <.006	NT	NT

NT - NOT TESTED AS PART OF THIS STUDY.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

		CR-4-50 10/27/83	CR-4-50 04/27/84	CR-4-50 (DUP.) 04/27/84
		N313537 /N313542	N406684 /N406688	N406686 /N406690 /
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P15	ENDRIN ALDEHYDE	UG/L <10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L <10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L <10.0	<10.0	<10.0
P18	PCB-1242	UG/L <10.0	<10.0	<10.0
P19	PCB-1254	UG/L <10.0	<10.0	<10.0
P20	PCB-1221	UG/L <10.0	<10.0	<10.0
P21	PCB-1232	UG/L <10.0	<10.0	<10.0
P22	PCB-1248	UG/L <10.0	<10.0	<10.0
P23	PCB-1260	UG/L <10.0	<10.0	<10.0
P24	PCB-1016	UG/L <10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L <10.0	<10.0	<10.0
P26	2,4-D	UG/L <1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L <.5	<.5	<.5
	CATEGORY 5 PARAMETERS			
C53	GROSS A RADIOACTIVITY	PC I/L 25.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L 20.0	<3.0	5.0
C57	TOTAL RADIUM	PC I/L <1.0	<1.0	<1.0
	CATEGORY 6 PARAMETERS			
C63	DIOXIN	PPB <.006	NT	NT

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

	CR-16-28 02/13/84	CR-16-28 05/03/84	CR16-28 (DUP.) 05/03/84
	N402035 /N402038	N407060 /N407064	N407061 /N407065 /
CATEGORY 1 PARAMETERS			
C1 TOTAL ORGANIC CARBON (MG/L)	20.0	23.0	32.0
C2 TOTAL ORGANIC HALIDE (UG/L)	NT	34.0	34.0
C3 BOD (MG/L)	6.0	14.0	19.0
C4 COD (MG/L)	73.0	67.0	89.0
C5 SPECIFIC CONDUCTANCE (UMHOS)	1160.0	703.0	684.0
C6 PH (SU)	7.6	7.3	7.4
C7 TEMPERATURE (DEG. C)	8.9	10.0	10.0
C135 TOTAL COLIFORM PER 100 ML NO.	>2400.0	NT	NT
CATEGORY 2 PARAMETERS			
C8 NITROGEN, AMMONIA (MG/L)	30.0	21.2	21.8
C9 BORON (MG/L)	.34	.1	.2
C10 CHLORIDE (MG/L)	110.0	59.0	58.0
C11 FLUORIDE (MG/L)	.13	.14	.2
C12 IRON (MG/L)	1.15	.75	.71
C14 NITRATE (MG/L)	<.09	<.05	<.05
C15 PHOSPHATE (MG/L)	9.7	3.43	1.84
C16 SULFATE (MG/L)	2.75	7.33	7.33
C17 SODIUM (MG/L)	198.0	131.0	124.0
C18 POTASSIUM (MG/L)	5.2	3.56	3.33
C43 BARIUM (GF) (MG/L)	.146	.014	.011
C52 MANGANESE (MG/L)	.81	.4	.39
C60 SULFIDE AS S (MG/L)	1.0	3.0	<1.0
C61 TIN (MG/L)	<1.0	<1.0	<1.0
CATEGORY 3 PARAMETERS			
C19 OIL AND GREASE (MG/L)	2.0	2.0	2.0
C20 SURFACTANTS (MBAS) (MG/L)	.597	.46	.45
C21 METHYL ETHYL KETONE (MG/L)	<.1	<.1	<.1
C22 ISOBUTYL ALCOHOL (MG/L)	<.1	<.1	<.1

NT - NOT TESTED AS PART OF THIS STUDY.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

		CR-16-28 02/13/84	CR-16-28 05/03/84	CR16-28 (DUP.) 05/03/84
		N402035 /N402038	N407060 /N407064	N407061 /N407065 /
	CATEGORY 3 PARAMETERS			
C23	N-BUTYL ALCOHOL	MG/L <.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L <.1	<.1	<.1
C25	ETHANOL	MG/L <.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L <10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L <.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L <.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L <.1	<.1	<.1
C30	STYRENE	MG/L <.1	<.1	<.1
C31	ACETONE	MG/L <.1	<.1	<.1
C32	ETHYL ACETATE	MG/L <.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L <.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L <.1	<.1	<.1
C35	DITHANE	MG/L <.02	<.02	<.02
C36	LETHANE	MG/L <.001	.003	.002
C37	KARATHANE	MG/L <.01	<.01	<.01
C38	DNCP	MG/L <.01	<.01	<.01
C69	TOTAL XYLENES	UG/L NT	<1.0	<1.0
C111	TOLUENE	MG/L NT	<.1	<.1
	CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L .45	<.15	<.15
T2	ARSENIC (GF)	MG/L <.001	.014	.018
T3	BERYLLIUM	MG/L <.01	<.01	<.01
T4	CADMIUM (GF)	MG/L <.01	<.0005	<.0005
T5	CHROMIUM (GF)	MG/L <.02	.008	.006
T6	COPPER	MG/L <.03	<.03	<.03
T7	LEAD (GF)	MG/L .009	.009	<.002
T8	MERCURY	MG/L .0002	.0019	.0024
T9	NICKEL	MG/L <.1	<.1	<.1
T10	SELENIUM	MG/L <.001	<.001	<.001
T11	SILVER	MG/L <.02	<.001	<.001
T12	THALLIUM	MG/L <.3	<.3	<.3
T13	ZINC	MG/L .08	.01	<.01

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

			CR-16-28 02/13/84	CR-16-28 05/03/84	CR16-28 (DUP.) 05/03/84
			N402035 /N402038	N407060 /N407064	N407061 /N407065
	CATEGORY 4 - OTHER PARAMETERS				
T14	CYANIDE	MG/L	<.005	<.005	.05
T15	PHENOLS	MG/L	.015	.008	.01
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V2	ACRYLONITRILE	UG/L	<.1	NT	NT
V3	BENZENE	UG/L	<.1	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	NT	<4.0	<4.0
V5	BROMOFORM	UG/L	<.1	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	16.7	5.4	7.1
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
V11	CHLOROFORM	UG/L	<1.0	<1.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<.1	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<1.0	<1.0	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<1.0	<1.0	<1.0
V25	TETRACHLORETHYLENE **	UG/L	<1.0	<1.0	<1.0
V26	TOLUENE	UG/L	<1.0	<1.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	3.7	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLORETHYLENE.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

		CR-16-28 02/13/84	CR-16-28 05/03/84	CR16-28 (DUP.) 05/03/84
		N402035 /N402038	N407060 /N407064	N407061 /N407065 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS			
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
				<1.0	<1.0
B21	1,3-DICHLOROBENZENE	UG/L	NT	<10.0	<10.0
				<1.0	<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<.1	<10.0	<10.0
				<1.0	<1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

		CR-16-28 02/13/84	CR-16-28 05/03/84	CR16-28 (DUP.) 05/03/84
		N402035 /N402038	N407060 /N407064	N407061 /N407065
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B36	HEXACHLOROETHANE	UG/L <10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L <25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L <10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L <10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L <10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L <10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L <10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L <10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L <10.0	<10.0	<10.0
B45	PYRENE	UG/L <10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L <10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L <10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1	2-CHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L <25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L <250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L <250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L <25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L <25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L <25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A10	PHENOL	UG/L <25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L <25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS				
P1	ALDRIN	UG/L <10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L <10.0	<10.0	<10.0
P3	BETA-BHC	UG/L <10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

	CR-16-28 02/13/84	CR-16-28 05/03/84	CR16-28 (DUP.) 05/03/84
	N402035 /N402038	N407060 /N407064	N407061 /N407065 /

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	3.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 31, 1984

			LF-4-21 11/03/83	LF-4-21 04/19/84	LF-4-21 (DUP.) 04/19/84
			N313996 /N314000	N406170 /N406176	N406171 /N406177 /
		CATEGORY 1 PARAMETERS			
C1	TOTAL ORGANIC CARBON	MG/L	69.0	160.0	161.0
C2	TOTAL ORGANIC HALIDE	UG/L	3200.0	1210.0	1220.0
C3	BOD	MG/L	8.0	14.0	11.0
C4	COD	MG/L	157.0	155.0	130.0
C5	SPECIFIC CONDUCTANCE	UMHOS	1609.0	1416.0	1433.0
C6	PH	SU	6.7	6.6	6.6
C7	TEMPERATURE	DEG. C	16.0	14.5	14.4
		CATEGORY 2 PARAMETERS			
C8	NITROGEN, AMMONIA	MG/L	124.0	138.0	135.0
C9	BORON	MG/L	.17	.2	.2
C10	CHLORIDE	MG/L	95.0	74.9	72.5
C11	FLUORIDE	MG/L	.196	.36	.41
C12	IRON	MG/L	43.4	37.0	36.4
C14	NITRATE	MG/L	<.05	.19	.27
C15	PHOSPHATE	MG/L	.2	1.13	2.27
C16	SULFATE	MG/L	12.83	19.3	19.7
C17	SODIUM	MG/L	43.0	34.3	33.6
C18	POTASSIUM	MG/L	29.1	30.9	30.9
C43	BARIUM (GF)	MG/L	.73	.185	.198
C52	MANGANESE	MG/L	.9	.68	.68
C60	SULFIDE AS S	MG/L	<1.0	3.0	7.0
C61	TIN	MG/L	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS			
C19	OIL AND GREASE	MG/L	2.0	2.0	3.0
C20	SURFACTANTS (MBAS)	MG/L	2.22	3.9	3.67
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1

000904

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 31, 1984

		LF-4-21 11/03/83	LF-4-21 04/19/84	LF-4-21 (DUP.) 04/19/84
		N313996 /N314000	N406170 /N406176	N406171 /N406177
CATEGORY 3 PARAMETERS				
C24	ISOPROPYL ALCOHOL	MG/L <.1	<.1	<.1
C25	ETHANOL	MG/L <.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L <10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L <.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L <.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L <.1	<.1	<.1
C30	STYRENE	MG/L <.1	<.1	<.1
C31	ACETONE	MG/L <.1	<.1	<.1
C32	ETHYL ACETATE	MG/L <.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L <.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L <.1	<.1	<.1
C35	DITHANE	MG/L <.02	<.02	<.02
C36	LETHANE	MG/L <.001	<.001	<.001
C37	KARATHANE	MG/L <.01	<.01	<.01
C38	DNCP	MG/L <.01	.01	.02
C69	TOTAL XYLENES	UG/L NT	1700.0	1500.0
C111	TOLUENE	MG/L <.1	966.0	1300.0
			<.1	<.1
CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L <.15	<.17	<.17
T2	ARSENIC (GF)	MG/L .005	.027	.024
T3	BERYLLIUM	MG/L <.01	<.01	<.01
T4	CADMIUM (GF)	MG/L .0006	<.0008	<.0005
T5	CHROMIUM (GF)	MG/L .015	<.004	<.004
T6	COPPER	MG/L <.03	<.03	<.03
T7	LEAD (GF)	MG/L .002	.034	.035
T8	MERCURY	MG/L .0003	.0021	.0002
T9	NICKEL	MG/L .1	<.1	<.1
T10	SELENIUM	MG/L <.001	<.001	<.001
T11	SILVER	MG/L <.001	<.001	<.001
T12	THALLIUM	MG/L <.3	<.3	<.3
T13	ZINC	MG/L .17	.06	.1

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 31, 1984
MONITORING WELL DATA

	LF-4-21 11/03/83	LF-4-21 04/19/84	LF-4-21 (DUP.) 04/19/84
	N313996 /N314000	N406170 /N406176	N406171 /N406177 /
CATEGORY 4 - OTHER PARAMETERS			
T14 CYANIDE MG/L	.006	<.005	<.005
T15 PHENOLS MG/L	.066	.05	.056
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS			
V1 ACROLEIN UG/L	<100.0	NT	NT
V2 ACRYLONITRILE UG/L	<100.0	NT	NT
V3 BENZENE UG/L	60.0	45.1	43.6
		34.5	37.7
V4 BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	<4.0
V5 BROMOFORM UG/L	<10.0	<1.0	<1.0
V6 CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<1.0
V7 CHLOROBENZENE UG/L	48.0	52.7	48.4
		26.2	30.2
V9 CHLOROETHANE UG/L	<10.0	<1.0	<1.0
V10 2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	NT
V11 CHLOROFORM UG/L	<10.0	4.2	1.2
		<1.0	<1.0
V12 BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<1.0
V13 DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	NT
V14 1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<1.0
V15 1,2-DICHLOROETHANE UG/L	<10.0	<1.0	<1.0
V16 1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<1.0
V17 1,2-DICHLOROPROPANE UG/L	<10.0	<1.0	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE * UG/L	<10.0	<1.0	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE UG/L	<10.0	<1.0	<1.0
V20 ETHYLBENZENE UG/L	20.0	8.3	9.0
		<1.0	<1.0
V21 BROMOMETHANE UG/L	<10.0	<1.0	<1.0
V22 CHLOROMETHANE UG/L	<10.0	<1.0	<1.0
V23 METHYLENE CHLORIDE UG/L	<10.0	9.7***	7.9***
		2.2	<1.0
V25 TETRACHLOROETHYLENE ** UG/L	<10.0	<1.0	<1.0
V26 TOLUENE UG/L	<10.0	204.0***	151.0***
		<1.0	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 31, 1984

			LF-4-21 11/03/83	LF-4-21 04/19/84	LF-4-21 (DUP.) 04/19/84
			N313996 /N314000	N406170 /N406176	N406171 /N406177 /
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0
				1.8	1.9
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<1.0
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	770.0	310.0	350.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	67.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	64.0	36.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0
				<1.0	<1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0
				<1.0	<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0
				<1.0	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL, BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 31, 1984

		LF-4-21 11/03/83	LF-4-21 04/19/84	LF-4-21 (DUP.) 04/19/84
		N313996 /N314000	N406170 /N406176	N406171 /N406177
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS			
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	11.0 *
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0

* LABORATORY METHOD BLANK HAD A CONCENTRATION LESS THAN 1/2 THE SAMPLE CONCENTRATION.

NT - NOT TESTED AS PART OF THIS STUDY.

809000

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 31, 1984

		LF-4-21 11/03/83	LF-4-21 04/19/84	LF-4-21 (DUP.) 04/19/84
		N313996 /N314000	N406170 /N406176	N406171 /N406177 /
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS			
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 31, 1984

		LF-4-21 11/03/83	LF-4-21 04/19/84	LF-4-21 (DUP.) 04/19/84
		N313996 /N314000	N406170 /N406176	N406171 /N406177
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P27	2,4,5-TP UG/L	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS			
C53	GROSS A RADIOACTIVITY PC I/L	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY PC I/L	83.0	18.0	18.0
C57	TOTAL RADIUM PC I/L	5.0	2.0	2.0

019000

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

000611

			LF-11-20 10/25/83	LF-11-20 04/23/84	LF11-20 (DUP.) 04/03/84
			N313435 /N313438	N406311 /N406314	N406312 /N406315 /
			CATEGORY 1 PARAMETERS		
C1	TOTAL ORGANIC CARBON	MG/L	110.0	184.0	185.0
C2	TOTAL ORGANIC HALIDE	UG/L	84.0	77.0	76.0
C3	BOD	MG/L	7.0	6.0	4.0
C4	COD	MG/L	210.0	185.0	181.0
C5	SPECIFIC CONDUCTANCE	UMHOS	2200.0	2054.0	2054.0
C6	PH	SU	6.9	7.2	7.2
C7	TEMPERATURE	DEG. C	13.0	12.8	12.7
			CATEGORY 2 PARAMETERS		
C8	NITROGEN, AMMONIA	MG/L	129.0	155.0	155.0
C9	BORON	MG/L	.16	.4	.4
C10	CHLORIDE	MG/L	118.0	81.9	114.6
C11	FLUORIDE	MG/L	.23	.27	.27
C12	IRON	MG/L	1.65	.69	.69
C14	NITRATE	MG/L	1.35	.06	<.05
C15	PHOSPHATE	MG/L	1.1	.09	.22
C16	SULFATE	MG/L	23.1	17.1	17.5
C17	SODIUM	MG/L	214.0	164.0	170.0
C18	POTASSIUM	MG/L	14.2	15.2	15.9
C43	BARIUM (GF)	MG/L	.132	.379	.409
C52	MANGANESE	MG/L	6.25	5.59	6.12
C60	SULFIDE AS S	MG/L	<1.0	2.0	4.0
C61	TIN	MG/L	<1.0	<1.0	<1.0
			CATEGORY 3 PARAMETERS		
C19	OIL AND GREASE	MG/L	<1.0	<1.0	3.0
C20	SURFACTANTS (MBAS)	MG/L	2.19	.966	1.17
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

			LF-11-20 10/25/83	LF-11-20 04/23/84	LF11-20 (DUP.) 04/03/84
			N313435 /N313438	N406311 /N406314	N406312 /N406315 /
		CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	15.3	NT
C111	TOLUENE	MG/L	<.1	<.1	<.1
		CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.15	<.17	<.17
T2	ARSENIC (GF)	MG/L	.004	.026	.024
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0012	.002	.002
T5	CHROMIUM (GF)	MG/L	.002	<.002	<.002
T6	COPPER	MG/L	.05	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	.009	.012
T8	MERCURY	MG/L	<.0002	.0035	.0005
T9	NICKEL	MG/L	.1	.1	.1
T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	.14	.2	.25
T14	CYANIDE	MG/L	<.005	<.005	<.005

NT - NOT TESTED AS PART OF THIS STUDY.

000612

000613

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

	LF-11-20 10/25/83	LF-11-20 04/23/84	LF11-20 (DUP.) 04/03/84
	N313435 /N313438	N406311 /N406314	N406312 /N406315 /

CATEGORY 4 - OTHER PARAMETERS

T15	PHENOLS	MG/L	.02	.045	.054

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V1	ACROLEIN	UG/L	<100.0	NT	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	NT
V3	BENZENE	UG/L	<10.0	<1.0	3.2
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	3.5
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	NT
V11	CHLOROFORM	UG/L	<10.0	<1.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	6.3***	5.7
V25	TETRACHLOROETHYLENE **	UG/L	<10.0	<1.0	<1.0
V26	TOLUENE	UG/L	<10.0	5.2	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	NT	NT

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

	LF-11-20 10/25/83	LF-11-20 04/23/84	LF11-20 (DUP.) 04/03/84
	N313435 /N313438	N406311 /N406314	N406312 /N406315 /

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	24.0	13.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
				<1.0	<1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
				<1.0	<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
				<1.0	<1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

000614

000615

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

	LF-11-20 10/25/83	LF-11-20 04/23/84	LF11-20 (DUP.) 04/03/84
	N313435 /N313438	N406311 /N406314	N406312 /N406315 /
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS			
B35 HEXACHLOROCYCLOPENTADIENE	UG/L <10.0	<10.0	<10.0
B36 HEXACHLOROETHANE	UG/L <10.0	<10.0	<10.0
B37 INDENO (1,2,3-CD) PYRENE	UG/L <25.0	<25.0	<25.0
B38 ISOPHORONE	UG/L <10.0	<10.0	<10.0
B39 NAPHTHALENE	UG/L <10.0	<10.0	<10.0
B40 NITROBENZENE	UG/L <10.0	<10.0	<10.0
B41 N-NITROSODIMETHYLAMINE	UG/L <10.0	<10.0	<10.0
B42 N-NITROSODI-N-PROPYLAMINE	UG/L <10.0	<10.0	<10.0
B43 N-NITROSODIPHENYLAMINE	UG/L <10.0	<10.0	<10.0
B44 PHENANTHRENE	UG/L <10.0	<10.0	<10.0
B45 PYRENE	UG/L <10.0	<10.0	<10.0
B46 1,2,4-TRICHLOROBENZENE	UG/L <10.0	<10.0	<10.0
B47 BENZO(B) FLUORANTHENE	UG/L NT	<10.0	NT
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS			
A1 2-CHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A2 2,4-DICHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A3 2,4-DIMETHYLPHENOL	UG/L <25.0	<25.0	<25.0
A4 4,6-DINITRO-O-CRESOL	UG/L <250.0	<250.0	<250.0
A5 2,4-DINITROPHENOL	UG/L <250.0	<250.0	<250.0
A6 2-NITROPHENOL	UG/L <25.0	<25.0	<25.0
A7 4-NITROPHENOL	UG/L <25.0	<25.0	<25.0
A8 P-CHLORO-M-CRESOL	UG/L <25.0	<25.0	<25.0
A9 PENTACHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A10 PHENOL	UG/L <25.0	<25.0	<25.0
A11 2,4,6-TRICHLOROPHENOL	UG/L <25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P1 ALDRIN	UG/L <10.0	<10.0	<10.0
P2 ALPHA-HHC	UG/L <10.0	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

	LF-11-20 10/25/83	LF-11-20 04/23/84	LF11-20 (DUP.) 04/03/84
	N313435 /N313438	N406311 /N406314	N406312 /N406315 /

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	9.0	12.0	22.0
C55	GROSS B RADIOACTIVITY	PC I/L	19.0	11.0	12.0
C57	TOTAL RADIUM	PC I/L	5.0	4.0	3.0

000616

000617

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

	LF-13-43 02/07/84	LF-13-43 04/24/84	LF13-43 (DUP.) 04/24/84
	N401698 /N401706	N406376 /N406382	N406378 /N406384 /
CATEGORY 1 PARAMETERS			
C1 TOTAL ORGANIC CARBON	MG/L	40.0	20.0	19.0
C2 TOTAL ORGANIC HALIDE	UG/L	NT	216.0	225.0
C3 BOD	MG/L	23.0	14.0	11.0
C4 COD	MG/L	40.0	36.0	40.0
C5 SPECIFIC CONDUCTANCE	UMHOS	99.0	101.0	99.0
C6 PH	SU	5.9	6.1	6.5
C7 TEMPERATURE	DEG. C	12.2	12.8	12.8
CATEGORY 2 PARAMETERS			
C8 NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05
C9 BORON	MG/L	.09	<.1	<.1
C10 CHLORIDE	MG/L	11.5	10.3	9.3
C11 FLUORIDE	MG/L	.03	.06	.05
C12 IRON	MG/L	.91	4.42	4.45
C14 NITRATE	MG/L	1.79	1.65	1.85
C15 PHOSPHATE	MG/L	.027	<.01	<.01
C16 SULFATE	MG/L	1.94	6.4	6.4
C17 SODIUM	MG/L	9.15	6.1	4.62
C18 POTASSIUM	MG/L	1.67	1.53	1.43
C43 BARIUM (GF)	MG/L	.024	.043	.061
C52 MANGANESE	MG/L	.408	.73	.73
C60 SULFIDE AS S	MG/L	<1.0	1.0	<1.0
C61 TIN	MG/L	<1.0	<1.0	<1.0
CATEGORY 3 PARAMETERS			
C19 OIL AND GREASE	MG/L	2.0	1.0	1.0
C20 SURFACTANTS (MBAS)	MG/L	.054	<.025	.068
C21 METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
C22 ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
C23 N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

			LF-13-43 02/07/84	LF-13-43 04/24/84	LF13-43 (DUP.) 04/24/84
			N401698 /N401706	N406376 /N406382	N406378 /N406384
		CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	<1.0
C111	TOLUENE	MG/L	NT	<.1	<.1
		CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	<.001	.021	.015
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.01	.002	.002
T5	CHROMIUM (GF)	MG/L	<.02	.004	.003
T6	COPPER	MG/L	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	.01	.017	.004
T8	MERCURY	MG/L	<.0002	<.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	<.02	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	<.01	.04	.02
T14	CYANIDE	MG/L	<.005	<.005	<.005

NT - NOT TESTED AS PART OF THIS STUDY.

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000619

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 25, 1984
MONITORING WELL DATA

		LF-13-43 02/07/84	LF-13-43 04/24/84	LF13-43 (DUP.) 04/24/84
		N401698 /N401706	N406376 /N406382	N406378 /N406384 /
	CATEGORY 4 - OTHER PARAMETERS			
T15	PHENOLS MG/L	.004	<.002	<.002
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS			
V3	BENZENE UG/L	<.1	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER UG/L	NT	<4.0	<4.0
V5	BROMOFORM UG/L	<1.0 <.1	<1.0	<1.0
V6	CARBON TETRACHLORIDE UG/L	<1.0 <.1	<1.0	<1.0
V7	CHLOROBENZENE UG/L	<1.0 <.1	<1.0	<1.0
V9	CHLOROETHANE UG/L	<1.0 <.1	<1.0	<1.0
V11	CHLOROFORM UG/L	1.7 .3	<1.0	<1.0
V12	BROMODICHLOROMETHANE UG/L	<1.0	<1.0	<1.0
V14	1,1-DICHLOROETHANE UG/L	<1.0 .5	<1.0	<1.0
V15	1,2-DICHLOROETHANE UG/L	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE UG/L	16.9 4.3	5.1	8.1
V17	1,2-DICHLOROPROPANE UG/L	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE * UG/L	<1.0 <.1	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE UG/L	<1.0 <.1	<1.0	<1.0
V20	ETHYLBENZENE UG/L	<.1	<1.0	<1.0
V21	BROMOMETHANE UG/L	<1.0 <.1	<1.0	<1.0
V22	CHLOROMETHANE UG/L	<1.0 <.1	<1.0	<1.0
V23	METHYLENE CHLORIDE UG/L	10.1 2.1***	3.3***	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

			LF-13-43 02/07/84	LF-13-43 04/24/84	LF13-43 (DUP.) 04/24/84
			N401698 /N401706	N406376 /N406382	N406378 /N406384 /
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V25	TETRACHLORETHYLENE **	UG/L	<1.0 2.9	1.2	1.4
V26	TOLUENE	UG/L	<.1	<1.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0 <.1	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0 49.0	37.1	<1.0
V30	TRICHLOROETHYLENE	UG/L	341.0 187.0	145.0	174.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0 <.1	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0 <.1	<1.0	<1.0
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	22.0	22.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLORETHYLENE.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

			LF-13-43 02/07/84	LF-13-43 04/24/84	LF13-43 (DUP.) 04/24/84
			N401698 /N401706	N406376 /N406382	N406378 /N406384 /

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

820	1,2-DICHLOROBENZENE	UG/L	<.2	<10.0	<1.0
			<.1	<1.0	<10.0
821	1,3-DICHLOROBENZENE	UG/L	<.3	<10.0	<1.0
			<.1	<1.0	<10.0
822	1,4-DICHLOROBENZENE	UG/L	<.2	<10.0	<1.0
			<.1	<1.0	<10.0
823	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0
824	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
825	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
826	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
827	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
828	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
829	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
830	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
831	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
832	FLUORENE	UG/L	<10.0	<10.0	<10.0
833	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
834	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0
835	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0
836	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
837	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0
838	ISOPHORONE	UG/L	<10.0	<10.0	<10.0
839	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0
840	NITROBENZENE	UG/L	<10.0	<10.0	<10.0
841	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0
842	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0
843	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0
844	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0
845	PYRENE	UG/L	<10.0	<10.0	<10.0
846	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
847	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

		LF-13-43 02/07/84	LF-13-43 04/24/84	LF13-43 (DUP.) 04/24/84
		N401698 /N401706	N406376 /N406382	N406378 /N406384 /
	CATEGORY 4 - ACID EXTRACTABLE ONGANIC PARAMETERS			
A2	2,4-DICHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L <25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L <250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L <250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L <25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L <25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L <25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A10	PHENOL	UG/L <25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L <25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P1	ALDRIN	UG/L <10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L <10.0	<10.0	<10.0
P3	BETA-BHC	UG/L <10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L <10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L <10.0	<10.0	<10.0
P6	CHLORDANE	UG/L <10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L <10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L <10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L <10.0	<10.0	<10.0
P10	DIELDRIN	UG/L <10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L <10.0	<10.0	<10.0
P14	ENDRIN	UG/L <10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L <10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L <10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L <10.0	<10.0	<10.0
P18	PCB-1242	UG/L <10.0	<10.0	<10.0
P19	PCB-1254	UG/L <10.0	<10.0	<10.0
P20	PCB-1221	UG/L <10.0	<10.0	<10.0
P21	PCB-1232	UG/L <10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 25, 1984

	LF-13-43 02/07/84	LF-13-43 04/24/84	LF13-43 (DUP.) 04/24/84
	N401698 /N401706	N406376 /N406382	N406378 /N406384 /

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0	3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0

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APPENDIX C

DUPLICATE SAMPLE ANALYTICAL RESULTS

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

			HRM-1110 11/22/83	HRM-1110 05/22/84	HRM1110 (DUP.) 05/22/84
			N314933 /N314946	N408123 /N408131	N408122 /N408130 /
		CATEGORY 1 PARAMETERS			
C1	TOTAL ORGANIC CARBON	MG/L	36.0	17.0	14.0
C2	TOTAL ORGANIC HALIDE	UG/L	24.5	<20.0	<20.0
C3	BOD	MG/L	<3.0	8.0	6.0
C4	COD	MG/L	26.0	32.0	400.0
C5	SPECIFIC CONDUCTANCE	UMHOS	354.0	306.0	305.0
C6	PH	SU	6.7	7.1	7.0
C7	TEMPERATURE	DEG. C	13.3	27.2	27.2
		CATEGORY 2 PARAMETERS			
C8	NITROGEN, AMMONIA	MG/L	3.6	4.35	4.35
C9	BORON	MG/L	.17	.2	.1
C10	CHLORIDE	MG/L	33.3	26.2	25.7
C11	FLUORIDE	MG/L	.2	<.1	<.1
C12	IRON	MG/L	.81	.37	.37
C14	NITRATE	MG/L	1.57	1.5	1.3
C15	PHOSPHATE	MG/L	.02	.11	.03
C16	SULFATE	MG/L	49.26	38.4	38.4
C17	SODIUM	MG/L	28.6	25.4	25.2
C18	POTASSIUM	MG/L	5.81	3.66	3.65
C43	BARIUM (GF)	MG/L	.07	.085	.081
C52	MANGANESE	MG/L	.64	.55	.54
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0
C61	TIN	MG/L	<.76	<1.0	<1.0
		CATEGORY 3 PARAMETERS			
C19	OIL AND GREASE	MG/L	3.0	2.0	2.0
C20	SURFACTANTS (MBAS)	MG/L	<.034	.23	.22
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

	HRM-1110	HRM-1110	HRM1110 (DUP.)
	11/22/83	05/22/84	05/22/84
	N314933 /N314946	N408123 /N408131	N408122 /N408130

CATEGORY 3 PARAMETERS

C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	.003
C37	KARATHANE	MG/L	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	<1.0
C111	TOLUENE	MG/L	NT	<.1	<.1

CATEGORY 4 - OTHER PARAMETERS

T1	ANTIMONY	MG/L	<.17	<.15	<.15
T2	ARSENIC (GF)	MG/L	.005	.004	.004
T3	BERYLLIUM	MG/L	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.0005	<.0005	<.0005
T5	CHROMIUM (GF)	MG/L	<.002	<.002	<.002
T6	COPPER	MG/L	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	.006	.01
T8	MERCURY	MG/L	.0002	.0003	.0002
T9	NICKEL	MG/L	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001
T11	SILVER	MG/L	.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3
T13	ZINC	MG/L	.08	<.01	<.01
T14	CYANIDE	MG/L	<.005	<.005	<.005

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

	HRM-1110 11/22/83	HRM-1110 05/22/84	HRM1110 (DUP.) 05/22/84
	N314933 /N314946	N408123 /N408131	N408122 /N408130 /

CATEGORY 4 - OTHER PARAMETERS

T15	PHENOLS	MG/L	.008	.002	.003

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V1	ACROLEIN	UG/L	<100.0	NT	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	NT
V3	BENZENE	UG/L	<10.0	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	NT
V11	CHLOROFORM	UG/L	<10.0	1.4	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<1.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<10.0	<1.0	<1.0
V26	TOLUENE	UG/L	<10.0	<1.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<1.0

NT = NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

		HRM-1110 11/22/83	HRM-1110 05/22/84	HRM1110 (DUP.) 05/22/84
		N314933 /N314946	N408123 /N408131	N408122 /N408130 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS			
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<1.0
				<1.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<1.0
				<1.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<1.0
				<1.0	<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

		HRM-1110 11/22/83	HRM-1110 05/22/84	HRM1110 (DUP.) 05/22/84
		N314933 /N314946	N408123 /N408131	N408122 /N408130 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS			
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS			
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

	HRM-1110	HRM-1110	HRM1110 (DUP.)
	11/22/83	05/22/84	05/22/84
	N314933 /N314946	N408123 /N408131	N408122 /N408130 /

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	3.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

			HRW-3610 05/29/84	HRW3610 (DUP.) 05/29/84	/	/
			N408469 /N408473	N408470 /N408474	/	/
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	20.8	9.6		
C2	TOTAL ORGANIC HALIDE	UG/L	38.0	41.0		
C3	BOD	MG/L	15.0	6.0		
C4	COD	MG/L	67.0	75.0		
C5	SPECIFIC CONDUCTANCE	UMHOS	252.0	250.0		
C6	PH	SU	6.6	6.6		
C7	TEMPERATURE	DEG. C	17.2	17.2		
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	2.55	2.5		
C9	BORON	MG/L	.1	.1		
C10	CHLORIDE	MG/L	30.9	29.0		
C11	FLUORIDE	MG/L	.12	.13		
C12	IRON	MG/L	1.68	1.65		
C14	NITRATE	MG/L	.6	.4		
C15	PHOSPHATE	MG/L	.14	.14		
C16	SULFATE	MG/L	26.7	16.5		
C17	SODIUM	MG/L	26.9	29.6		
C18	POTASSIUM	MG/L	2.41	2.47		
C43	BARIUM (GF)	MG/L	.059	.059		
C52	MANGANESE	MG/L	.13	.13		
C60	SULFIDE AS S	MG/L	<2.0	<2.0		
C61	TIN	MG/L	<1.0	<1.0		
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	1.0	1.0		
C20	SURFACTANTS (MBAS)	MG/L	.15	.12		
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1		
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1		
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1		

000630

000631

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

			HRW-3610 05/29/84	HRW3610 (DUP.) 05/29/84	/	/
			N408469 /N408473	N408470 /N408474	/	/
		CATEGORY 3 PARAMETERS				
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1		
C25	ETHANOL	MG/L	<.1	<.1		
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0		
C27	METHYL METHACRYLATE	MG/L	<.1	<.1		
C28	ETHYL ACRYLATE	MG/L	<.1	<.1		
C29	BUTYL ACRYLATE	MG/L	<.1	<.1		
C30	STYRENE	MG/L	<.1	<.1		
C31	ACETONE	MG/L	<.1	<.1		
C32	ETHYL ACETATE	MG/L	<.1	<.1		
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1		
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1		
C35	DITHANE	MG/L	<.02	<.02		
C36	LETHANE	MG/L	<.001	<.001		
C37	KARATHANE	MG/L	<.01	<.01		
C38	DNCP	MG/L	<.01	<.01		
C69	TOTAL XYLENES	UG/L	<1.0	<1.0		
C111	TOLUENE	MG/L	<.1	<.01		
		CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L	<.15	<.15		
T2	ARSENIC (GF)	MG/L	.004	.004		
T3	BERYLLIUM	MG/L	<.01	<.01		
T4	CADMIUM (GF)	MG/L	<.0005	<.0005		
T5	CHROMIUM (GF)	MG/L	.003	.003		
T6	COPPER	MG/L	<.03	<.03		
T7	LEAD (GF)	MG/L	.005	.006		
T8	MERCURY	MG/L	.0006	.0004		
T9	NICKEL	MG/L	<.1	<.1		
T10	SELENIUM	MG/L	<.001	<.001		
T11	SILVER	MG/L	<.001	<.001		
T12	THALLIUM	MG/L	<.3	<.3		
T13	ZINC	MG/L	.02	.05		
T14	CYANIDE	MG/L	<.005	<.005		

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

			HRW-3610 05/29/84	HRW3610 (DUP.) 05/29/84		
			N408469 /N408473	N408470 /N408474	/	/
	CATEGORY 4 - OTHER PARAMETERS					
T15	PHENOLS	MG/L	.012	.012		
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V3	BENZENE	UG/L	<1.0	<1.0		
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<4.0	<4.0		
V5	BROMOFORM	UG/L	<1.0	<1.0		
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0		
V7	CHLOROBENZENE	UG/L	<1.0	<1.0		
V9	CHLOROETHANE	UG/L	<1.0	<1.0		
V11	CHLOROFORM	UG/L	<1.0	<1.0		
V12	BROMODICHLOROMETHANE	UG/L	<1.0	<1.0		
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0		
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0		
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<1.0		
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0		
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0		
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0		
V20	ETHYLBENZENE	UG/L	<1.0	<1.0		
V21	BROMOMETHANE	UG/L	<1.0	<1.0		
V22	CHLOROMETHANE	UG/L	<1.0	<1.0		
V23	METHYLENE CHLORIDE	UG/L	1.3***	<1.0		
V25	TETRACHLOROETHYLENE **	UG/L	<1.0	<1.0		
V26	TOLUENE	UG/L	<1.0	<1.0		
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0		
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0		
V30	TRICHLOROETHYLENE	UG/L	<1.0	<1.0		
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0		
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0		

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

000632

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

000633

	HRW-3610	HRW3610 (DUP.)		
	05/29/84	05/29/84		
	N408469 /N408473	N408470 /N408474	/	/

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<1.0	<1.0
			<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<1.0	<1.0
			<10.0	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<1.0	<1.0
			<10.0	<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

			HRW-3610 05/29/84	HRW3610 (DUP.) 05/29/84		
			N408469 /N408473	N408470 /N408474	/	/
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0		
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0		
B38	ISOPHORONE	UG/L	<10.0	<10.0		
B39	NAPHTHALENE	UG/L	<10.0	<10.0		
B40	NITROBENZENE	UG/L	<10.0	<10.0		
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0		
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0		
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0		
B44	PHENANTHRENE	UG/L	<10.0	<10.0		
B45	PYRENE	UG/L	<10.0	<10.0		
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0		
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0		
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0		
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0		
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0		
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0		
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0		
A6	2-NITROPHENOL	UG/L	<25.0	<25.0		
A7	4-NITROPHENOL	UG/L	<25.0	<25.0		
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0		
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0		
A10	PHENOL	UG/L	<25.0	<25.0		
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0		
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0		
P2	ALPHA-BHC	UG/L	<10.0	<10.0		
P3	BETA-BHC	UG/L	<10.0	<10.0		

000634

000635

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 25, 1984

	HRH-3610	HRH3610 (DUP.)		
	05/29/84	05/29/84		
	N408469 /N408473	N408470 /N408474	/	/

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P4	GAMMA-BHC	UG/L	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	2.0	<1.0

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APPENDIX D

MAY 1984 LANDFILL GROUNDWATER DISCHARGE RATE CALCULATION

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APPENDIX D

MAY 1984 LANDFILL GROUNDWATER DISCHARGE RATE CALCULATION

1.0 INTRODUCTION

Two independent methodologies were used to calculate the groundwater discharge rate from the 0.20 mi^2 landfill and 0.36 mi^2 of the area surrounding it (see Figure 10). The area surrounding the landfill was included in the groundwater discharge rate computation because it is in the same local groundwater basin as the landfill through which landfill constituents may flow. Two methodologies were used to maximize the reliability of the calculations by reducing bias or error inherent in any one methodology. The results from both methods are summarized in Table D-1.

2.0 FLOW DURATION METHODOLOGY

The flow duration methodology utilizes stream flow records from nearby surface water basins. Ninety percent of the mean discharge rate of these streams (as expressed in cubic feet per second per square mile of basin - cfs/mi^2) is assumed to be contributed by base flow or groundwater discharge and is assumed to be to be equivalent to the groundwater discharge rate. This assumption is based upon a BCM hydrologic study of Coastal Plain watersheds in southern New Jersey (Technical Memos, Surface Water Quantity, Pinelands Commission, February 1980, Betz Converse Murdoch, Inc.).

3.0 FLOW DURATION CALCULATIONS

3.1 Mean stream flow rates are:

1. Common Creek, tributary to Delaware River, Bucks County, Pennsylvania — 0.60 cfs/mi^2
2. Mt. Misery Brook, tributary to North Branch Rancocas Creek, Burlington County, New Jersey — 0.70 cfs/mi^2
3. Mill Creek, tributary to Delaware River, Bucks County, Pennsylvania — 0.90 cfs/mi^2
4. McDonalds Branch, tributary to North Branch Rancocas Creek, Burlington County, New Jersey — 1.00 cfs/mi^2

000636

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5. South Branch Rancocas Creek, tributary to Delaware River, Burlington County, New Jersey 1.46 cfs/mi^2

6. North Branch Rancocas Creek, tributary to Delaware River, Burlington County, New Jersey 1.54 cfs/mi^2

3.2 Range of mean stream flow rates:

0.60 cfs/mi^2 to 1.54 cfs/mi^2

3.3 Range of groundwater discharge rate per square mile (90 percent of mean stream flow rate)

$$(0.60 \text{ cfs/mi}^2)(0.9) = 0.54 \text{ cfs/mi}^2$$
$$\text{to}$$
$$(1.54 \text{ cfs/mi}^2)(0.9) = 1.39 \text{ cfs/mi}^2$$

3.4 Range of discharge rates from 0.56 mi^2 of the landfill study area:

$$(0.54 \text{ cfs/mi}^2)(0.56 \text{ mi}^2) = 0.30 \text{ cfs}$$
$$\text{to}$$
$$(1.39 \text{ cfs/mi}^2)(0.56 \text{ mi}^2) = 0.78 \text{ cfs}$$

3.5 Total groundwater discharge must include the water seeping from the treated wastewater basins to the water table. This seepage has been calculated to equal 0.1 cfs

3.6 Range of total discharge rates from 0.56 mi^2 of the landfill study area:

0.30 cfs + 0.10 cfs = 0.40 cfs to 0.78 + 0.10 cfs = 0.88 cfs

4.0 FLOW NET ANALYSIS METHODOLOGY

000632

Flow net analysis is a graphical solution whereby the groundwater discharge is determined through a cross-sectional area of an aquifer. This methodology utilizes head change and the aquifer thickness and permeability as variables to calculate groundwater discharge volumes.

A flow net is composed of two families of lines or curves. One family of curves represents flow lines which depict the paths followed by particles of water as they flow in the direction of decreasing head. Intersecting the flow lines at right angles is a family of curves, termed equipotential lines, which represent piezometric-surface or water-table contours.

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The May 1984 landfill area flow net (Figure D-1) was constructed using the May 3, 1984 shallow groundwater contour map (Figure 4) as the family of equipotential curves. The contour map was modified by removing mounding beneath the Rohm and Haas basins to simplify the analysis. Curves representing groundwater flow lines were added to the groundwater contour map to complete the flow net.

The groundwater discharge calculations contained in Table D-2 utilize the flow net to obtain the aquifer width (w) and hydraulic gradient (h/l) at each flow tube (interval between two flow lines). The bedrock contour map (Figure 2-6) contained in BCM's April 1984 Report on Landfill Investigation is used to obtain the saturated aquifer thickness values (b). The mean alluvial aquifer hydraulic conductivity (K) used in the calculations is equal to 7.62 ft/day as calculated in BCM's April 1984 report. The landfill area along the Delaware River was excluded from the flow net analysis to minimize tidal interferences. The flow net analysis calculation indicates a groundwater discharge rate of 15,000 ft^3/day.

The flow net computation result is then corrected to reflect the difference in areas used to compute the flow duration method result (0.56 mi^2) and the flow net analysis result (0.386 mi^2). To do this, the flow net values for each stream segment were multiplied by the ratio of area utilized in the flow duration method to the area discharging to the same stream segment utilized in the flow net method. These areas discharged to the same stream segment. The resulting values are presented in Table D-3.

5.0 STREAM SEGMENT DISCHARGE CALCULATIONS

The estimated range of groundwater discharge that is discharging to the adjacent stream segments is presented in Table D-4. The resulting rate is used to calculate the ammonia, COD and priority pollutant loading rates presented in Section 3.2.

000638

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TABLE D-1

SUMMARY OF GROUNDWATER DISCHARGE RATE CALCULATION RESULTS

Method	Discharge Rate			
	cfs/mi^2	cfs*	gpd*	million* gallons/year (mgy)
Flow Duration**	0.53 to 1.21	0.40 to 0.78	258,000 to 504,000	94 to 184
May 1984 Flow Net***	0.42	0.34	217,000	79

* Includes seepage from Rohm and Haas treated water basins 1, 2, 3a and 3b (0.10 cfs)

** Flow duration area equals 0.56 mi^2

*** Flow net area equals 0.39 mi^2

Source: BCM Eastern Inc. (Project No. 00-4061-06)

000639

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TABLE D-2

MAY 1984 FLOW NET FLOW TUBE DISCHARGE CALCULATIONS
(Corresponds to Figure D-1)

Flow Tube	h(ft)	l(ft)	w(ft)	b(ft)	Q tube (ft^3/day)
1	1.6	310	330	12	150
2	1.8	500	330	17	150
3	2.6	690	380	22	240
4	2.6	890	410	23	210
5	3.6	1,070	550	16	230
6	4.6	920	540	10	200
7	5.6	680	305	6	110
8	6.6	770	650	35	1,490
9	7.6	1,010	470	39	1,060
10	7.6	1,060	420	39	890
11	7.6	990	420	37	910
12	7.6	1,120	450	32	750
13	7.6	1,220	410	29	560
14	7.6	1,320	330	29	420
15	1.6	410	270	12	100
16	1.6	490	270	12	80
17	2.0	1,070	400	36	200
18	2.0	820	350	36	230
19	2.0	590	220	31	180
20	3.0	870	260	34	230
21	3.0	1,070	610	31	400
22	3.5	1,310	830	12	200
23	3.2	1,360	540	10	100
24	5.2	1,110	720	37	950
25	6.5	1,810	390	42	450
26	7.5	2,680	890	54	1,020

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TABLE D-2
MAY 1984 FLOW NET FLOW TUBE DISCHARGE CALCULATIONS
(Corresponds to Figure D-1)

Flow Tube	h(ft)	l(ft)	w(ft)	b(ft)	Q tube (ft^3/day)
27	7.5	2,620	740	47	760
28	7.5	2,400	610	47	680
29	7.5	2,190	500	47	610
30	6.5	1,410	600	48	1,010
31	3.5	1,260	400	51	430
				TOTAL	15,045

$Q_{tube} = \frac{Kbwh}{l}$

K = average overburden hydraulic conductivity (7.62 ft/day)
h = change in water table elevation over length of flow tube (feet)
l = length of flow tube (feet)
w = width of downgradient cross-section of flow tube (feet)
b = saturated aquifer thickness of the downgradient cross-section of the flow tube (feet)
Q_{tube} = discharge of the flow tube (ft^3/day)

Note: Flow net area equals 0.447 mi^2

Source: BCM Eastern Inc. (Project No. 4061-06)

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TABLE D-3

MAY 1984 STREAM SEGMENT FLOW NET DISCHARGE RATE CALCULATION

Stream Segment	Unadjusted Flow Net Groundwater Discharge Rate (gpd)	Flow Net Discharge Rate Corrected For Area (gpd)
West Branch of Hog Run Creek	7,400	6,900
East Branch of Hog Run Creek	10,900	16,100
West Bank of Hog Run Creek	21,400	23,500
East Bank of Hog Run Creek	11,200	15,100
Delaware River west of Hog Run Creek	27,700	30,300
Delaware River east of Hog Run Creek	98,600	125,000
TOTALS	177,200	216,900

*Includes 64,800 gpd from basins

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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TABLE D-4

MAY 1984 STREAM SEGMENT GROUNDWATER DISCHARGE
CALCULATION RESULTS

Stream Segment	May 1984 Flow Net Discharge Estimate (gpd)	Flow Duration Estimate Range (gpd)	Combined Range of Flow Net and Flow Duration Values (gpd)
West Branch of Hog Run Creek	6,900	18,600 - 36,300	6,900 - 36,300
East Branch of Hog Run Creek	16,100	35,700 - 69,600	16,100 - 69,600
West Bank of Hog Run Creek	23,500	16,500 - 32,300	16,500 - 32,300
East Bank of Hog Run Creek	15,100	24,000 - 46,900	15,100 - 46,900
Delaware River west of Hog Run Creek	30,300	34,900 - 68,000	30,300 - 68,000
Delaware River east of Hog Run Creek	125,100	128,700 - 251,000	125,100 - 251,000
TOTALS	217,000	258,400 - 504,100	210,000 - 504,100

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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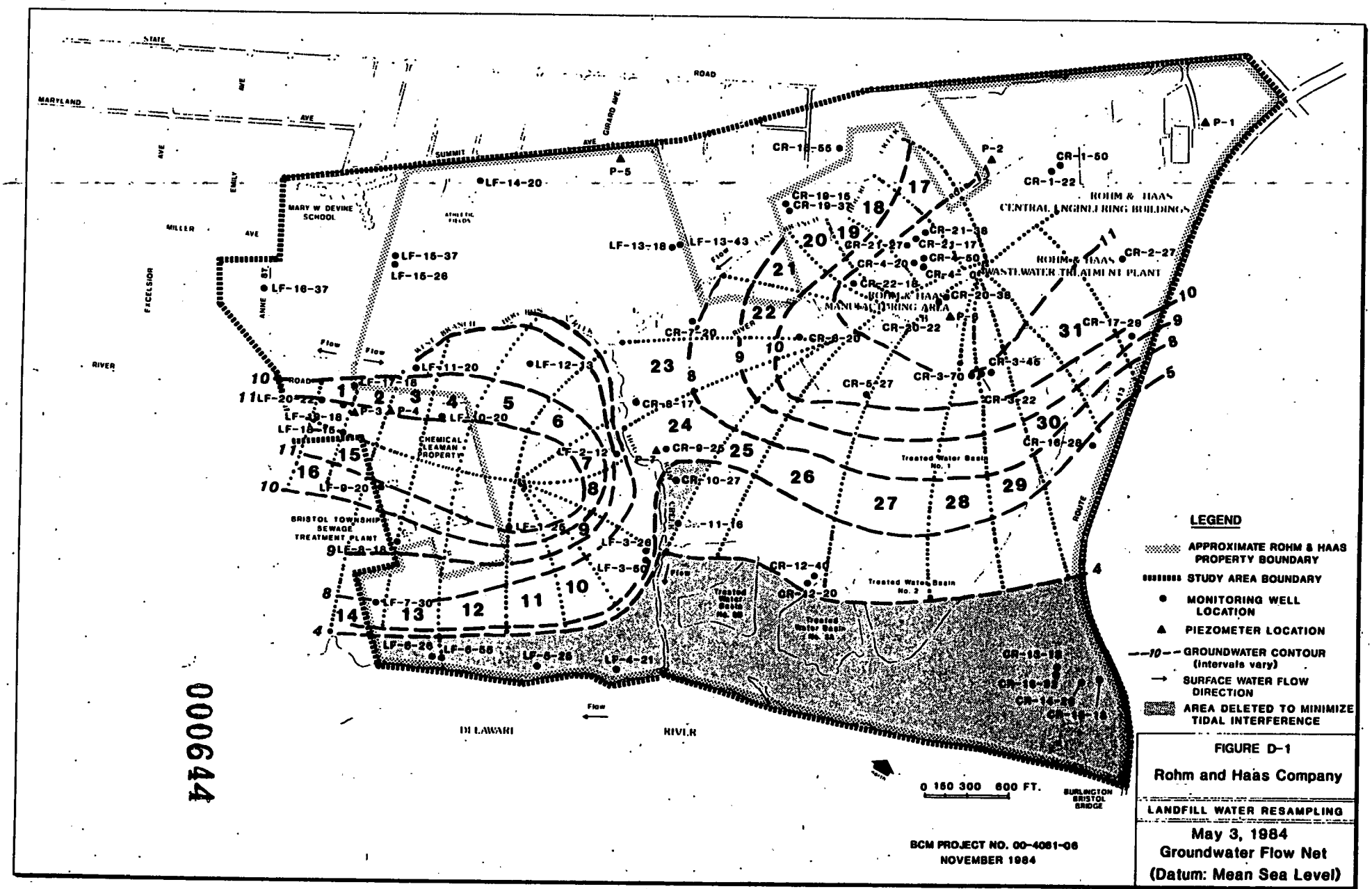

FIGURE D-1

Rohm and Haas Company

LANDFILL WATER RESAMPLING

May 3, 1984
Groundwater Flow Net
(Datum: Mean Sea Level)

BCM PROJECT NO. 00-4081-06
NOVEMBER 1984

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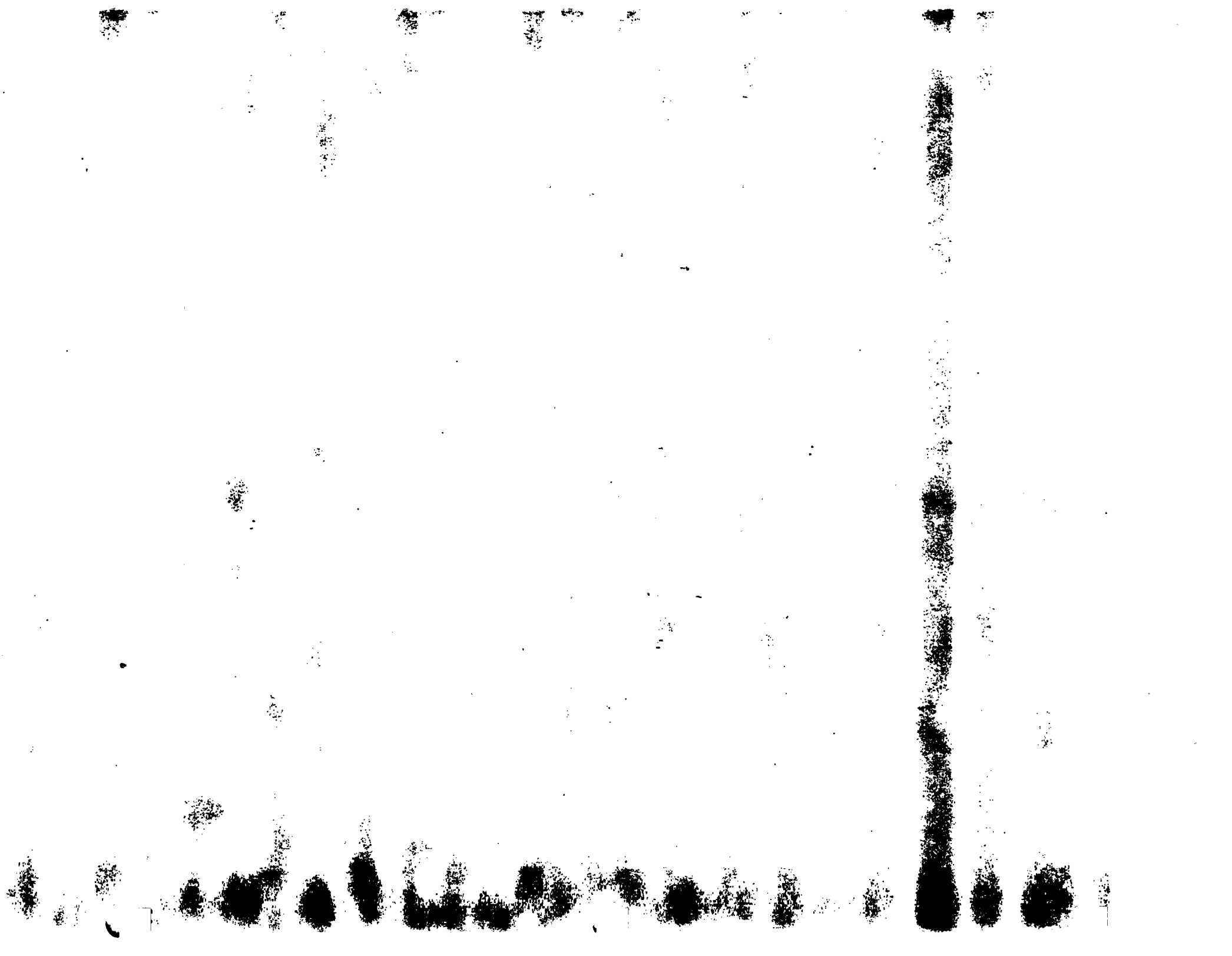
APPENDIX E

PROPOSED PENNSYLVANIA AMMONIA SURFACE WATER QUALITY CRITERIA AND DETERMINATION OF COMPLIANCE



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APPENDIX E

PROPOSED PENNSYLVANIA AMMONIA SURFACE WATER QUALITY CRITERIA AND DETERMINATION OF COMPLIANCE

1.0 PROPOSED PENNSYLVANIA AMMONIA CRITERIA

The Commonwealth of Pennsylvania has proposed revisions to its surface water quality criteria for ammonia (Pennsylvania Bulletin Vol. 14, No. 38, dated Saturday, September 22, 1984). The proposed criteria are based on US EPA-proposed criteria (Federal Register Vol. 49, No. 26, dated Tuesday, February 7, 1984). The criteria are a function of in-stream pH and temperature, because ammonia toxicity increases with increasing pH and/or temperature. Thus, the specific ammonia criteria may vary from stream to stream or even from reach to reach of the same stream. The proposed Pennsylvania criteria establish an allowable 30-day average and an allowable maximum concentration of ammonia based on measured pH and temperature in a given reach of stream.

Temperature and pH can vary considerably on a day to day basis for a given reach of stream and, therefore, the "instantaneous" allowable concentration of ammonia will vary. To establish criteria for each stream reach that will apply year-round, rules for determining the appropriate median temperature and pH are set out in the proposed Pennsylvania criteria.

The proposed Pennsylvania criteria specify that the temperature used in determining the allowable concentration for a given reach of stream should be "representative of the median value during the summer period (July through September)." If data are unavailable, the criteria specify a median summer temperature of 25°C for streams classified as warm-water fisheries (both Hog Run Creek and the Delaware River fall under this classification). Field measured pH values are applicable on an annual median basis, but if no data exist, the proposed criteria specify a median pH of 7.0.

2.0 SURFACE WATER AMMONIA RESULTS

The May 1984 surface water ammonia, pH, and temperature results are presented in Table E-1 along with the corresponding "instantaneous" criteria and proposed state ammonia criteria (based on medium pH and temperature). The "instantaneous" criteria (based on measured pH and temperature), are presented here to indicate the quality of the water relative to aquatic life at the exact time of sampling only. Determinations of proposed Pennsylvania year-round criteria require a median summer temperature (as discussed in the previous section).

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Since there are no summer data, the Pennsylvania median of 25°C was used. Temperature data for stations HRM-0210, HRM-0560, HRM-1110 and HRM-1370 indicate an even higher median summer temperature may be appropriate since the measured temperatures for May already exceed 25°C. For comparative purposes, the November 1983 data have likewise been presented in Table E-2. Compliance with the 30-day average allowable criteria cannot be determined, because the data are not representative of the complete tidal cycle. These samples were taken at slack low tide to show the worst-case concentrations (no tidal dilution).

Table E-1 indicates that ammonia concentrations are acceptable in the east and west branches of Hog Run Creek. Concentrations rise substantially downstream of the confluence of the east and west branches of Hog Run Creek, exceeding the 30-day average standards, and rise again downstream of Treated Water Basin 3B's discharge channel, exceeding both the 30-day average and maximum allowable criteria. Data for the Delaware River stations indicate no violations of instantaneous or proposed state criteria.

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TABLE E-1

AMMONIA DATA AND WATER QUALITY CRITERIA* - HOG RUN CREEK AND DELAWARE RIVER
MAY 1984 SAMPLING
(Samples Taken at Slack Low Tide)

Station		pH (std. units)	Temp. (°C)	Ammonia Nitrogen (NH_3-N in mg/l)	Proposed PA Maximum Allowable NH_3N Criteria	
					Instantaneous*	Year - Round**
DRU-1.7		7.2	16.1	0.16	10.90	5.92
DRU-9.5		7.2	15.0	0.07	12.26	5.92
DRD-1.5		7.3	15.0	0.20	11.10	5.37
HRM-0210		8.2	27.8	3.95	1.03	1.35
HRM-0560		8.4	28.3	2.30	0.64	0.94
HRM-1110		7.1	27.2	4.35	6.07	6.45
HRM-1370		6.9	26.1	4.00	6.52	7.37
HRM-2160		6.9	18.3	1.80	11.50	7.37
HRT-2730	NS	--	--	--	--	--
HRE-2890		6.5	16.1	0.55	16.67	8.63
HRE-3650		6.3	18.9	0.20	13.95	8.77
HRE-4560		6.2	18.3	0.20	14.64	8.78
HRE-5320		6.7	20.0	0.10	11.58	8.10
HRE-6640		6.6	23.9	<0.005	9.44	8.37
HRW-2760		6.5	13.9	0.65	19.73	8.63
HRW-3510	NS	--	--	--	--	---
HRW-3610		6.6	17.2	2.55	14.96	8.37
HRW-4470		6.5	13.3	<0.05	20.72	8.63

NS = Not Sampled

* This is an instantaneous water quality criterion based on proposed Pa. criteria but is not the year-round criterion.

** Pa. Bulletin Vol. 14, No. 38, Sat., Sept. 22, 1984. Pa. proposed criteria based on in-stream pH but set temperature at 25°C (Pa. median for warm-water fisheries). This is proposed year-round criterion.

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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TABLE E-2

AMMONIA DATA AND WATER QUALITY CRITERIA - HOG RUN CREEK AND DELAWARE RIVER
NOVEMBER 1984 SAMPLING
(Samples Taken at Slack Low Tide)

Station		pH (std. units)	Temp. (°C)	Ammonia Nitrogen (NH_3-N in mg/l)	Instantaneous Maximum Allowable NH_3-N Criteria*	PA Proposed Maximum Allowable NH_3-N Criteria**
DRU-1.7		7.0	8.8	0.20	21.10	6.97
DRU-9.5		7.0	7.7	0.08	21.10	6.97
DRD-1.5		7.0	8.9	0.26	21.10	6.97
HRM-0210		8.1	11.7	7.00	5.02	1.64
HRM-0560	NS	--	--	--	--	--
HRM-1110		6.7	13.3	3.60	19.12	8.10
HRM-1370		6.6	17.8	3.80	14.76	8.37
HRM-2160		6.5	13.9	2.75	19.73	8.63
HRT-2730		6.3	10.5	<0.05	26.32	6.20
HRE-2890		6.0	11.7	0.19	23.94	8.69
HRE-3650	NS	--	--	--	--	--
HRE-4560	NS	--	--	--	--	--
HRE-5320	NS	--	--	--	--	--
HRE-6640	NS	--	--	--	--	--
HRW-2760		6.4	11.1	0.19	24.73	8.70
HRW-3510	FEB	6.2	6.7	1.75	27.14	8.78
HRW-3610	NS	--	--	--	--	--
HRW-4470	FEB	6.0	--	<0.05	--	8.69

NS = Not Sampled

* This is an instantaneous water quality criterion based on proposed Pa. criteria but is not the year-round criterion.

** Pa. Bulletin Vol. 14, No. 38, Sat., Sept. 22, 1984. Pa. proposed criteria based on in-stream pH but set temperature at 25°C (Pa. median for warm-water fisheries). This is proposed year-round criterion.

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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BCM Engineers, Planners and Scientists

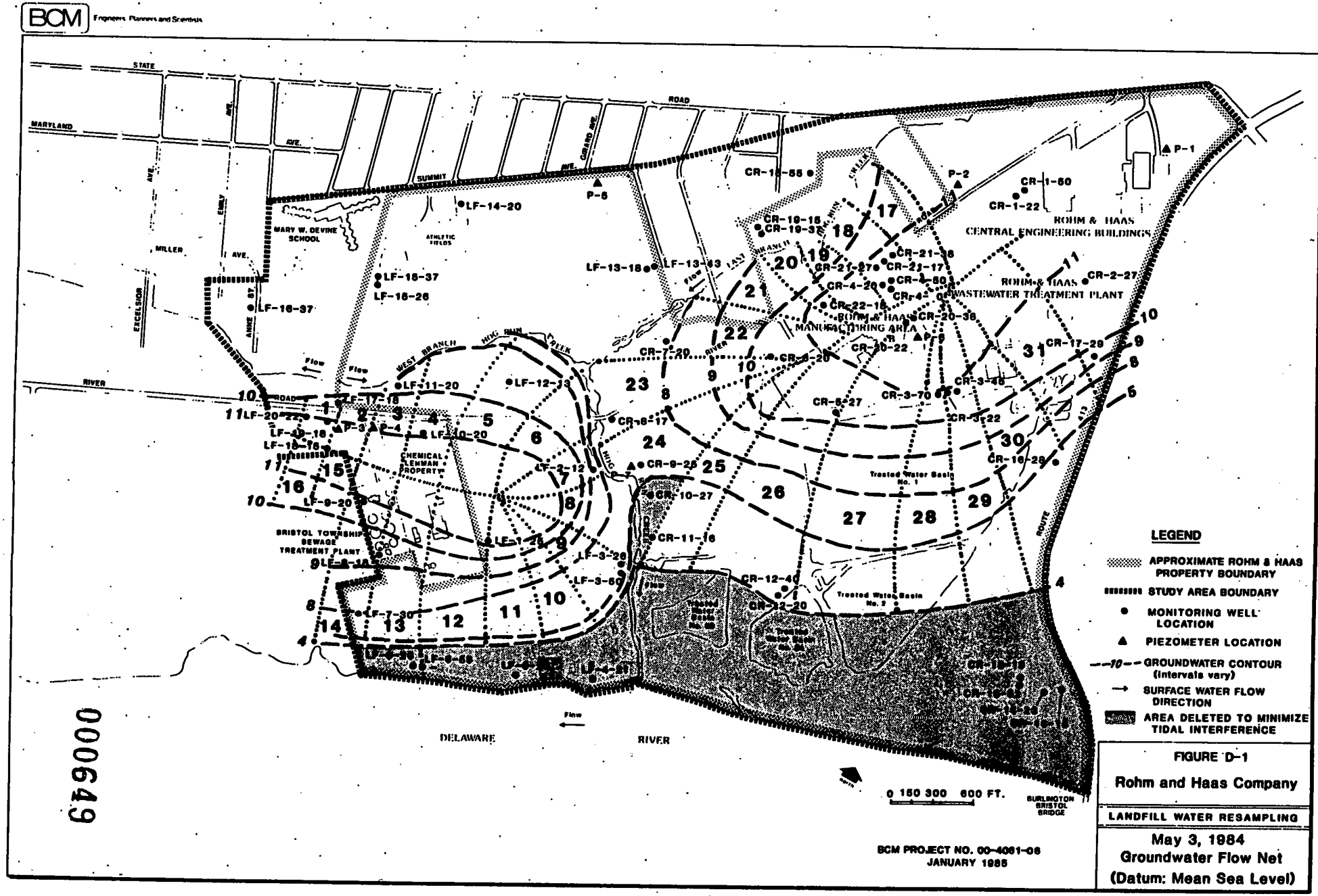

FIGURE D-1

Rohm and Haas Company

LANDFILL WATER RESAMPLING

May 3, 1984
Groundwater Flow Net
(Datum: Mean Sea Level)

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APPENDIX F

GROUNDWATER, SURFACE WATER, AND SEDIMENT LABORATORY ANALYTICAL RESULTS

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APPENDIX F1

"CR" MONITORING WELL RESULTS

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-1-22 10/27/83	CR-1-22 04/26/84	CR-1-50 02/08/84	CR-1-50 04/26/84
			N313539 /N313544	N406515 /N406520	N401822 /N401825	N406514 /N406519
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	49.0	23.0	25.0	9.0
C2	TOTAL ORGANIC HALIDE	UG/L	25.0	<20.0	NT	26.0
C3	BOD	MG/L	36.0	3.0	<3.0	10.0
C4	COD	MG/L	36.0	36.0	25.0	20.0
C5	SPECIFIC CONDUCTANCE	UMHOS	308.0	206.0	181.0	160.0
C6	PH	SU	5.5	6.0	5.5	5.6
C7	TEMPERATURE	DEG. C	14.0	10.6	12.8	12.8
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05	<.05
C9	BORON	MG/L	.07	.1	.17	.1
C10	CHLORIDE	MG/L	37.3	21.5	15.7	14.0
C11	FLUORIDE	MG/L	.06	<.1	.08	<.1
C12	IRON	MG/L	.37	<.04	.09	<.04
C14	NITRATE	MG/L	1.56	1.72	6.18	4.19
C15	PHOSPHATE	MG/L	<.01	.03	<.01	.11
C16	SULFATE	MG/L	39.9	25.0	45.7	22.0
C17	SODIUM	MG/L	27.2	12.8	14.6	10.6
C18	POTASSIUM	MG/L	2.87	.54	2.06	2.02
C43	BARIUM (GF)	MG/L	.051	.123	.1	.057
C52	MANGANESE	MG/L	1.83	.44	.1	.04
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	<1.0	1.0	5.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	.439	.09	.009	.1
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

000651

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-1-22 10/27/83	CR-1-22 04/26/84	CR-1-50 02/08/84	CR-1-50 04/26/84
	N313539 /N313544	N406515 /N406520	N401822 /N401825	N406514 /N406519
CATEGORY 3 PARAMETERS				
C24 ISOPROPYL ALCOHOL MG/L	<.1	<.1	<.1	<.1
C25 ETHANOL MG/L	<.1	<.1	<.1	<.1
C26 BUTYL METHACRYLATE MG/L	<10.0	<10.0	<10.0	<10.0
C27 METHYL METHACRYLATE MG/L	<.1	<.1	<.1	<.1
C28 ETHYL ACRYLATE MG/L	<.1	<.1	<.1	<.1
C29 BUTYL ACRYLATE MG/L	<.1	<.1	<.1	<.1
C30 STYRENE MG/L	<.1	<.1	<.1	<.1
C31 ACETONE MG/L	<.1	<.1	<.1	<.1
C32 ETHYL ACETATE MG/L	<.1	<.1	<.1	<.1
C33 CELLOSOLVE ACETATE MG/L	<.1	<.1	<.1	<.1
C34 BUTYL CELLOSOLVE MG/L	<.1	<.1	<.1	<.1
C35 DITHANE MG/L	<.02	<.02	<.02	<.02
C36 LETHANE MG/L	<.001	<.001	<.001	<.001
C37 KARATHANE MG/L	<.01	<.01	<.01	<.01
C38 DNCP MG/L	<.01	<.01	<.01	<.01
C69 TOTAL XYLENES UG/L	NT	<1.0	NT	<1.0
C111 TOLUENE MG/L	NT	<.1	NT	<.1
CATEGORY 4 - OTHER PARAMETERS				
T1 ANTIMONY MG/L	<.15	<.15	<.16	<.15
T2 ARSENIC (GF) MG/L	<.001	.013	<.001	.014
T3 BERYLLIUM MG/L	<.01	<.01	<.01	<.01
T4 CADMIUM (GF) MG/L	.0009	.001	<.01	.0006
T5 CHROMIUM (GF) MG/L	<.002	.003	<.02	.003
T6 COPPER MG/L	.05	<.03	<.03	<.03
T7 LEAD (GF) MG/L	<.002	.015	.005	.01
T8 MERCURY MG/L	.0003	.0004	<.0002	<.0002
T9 NICKEL MG/L	<.1	<.1	<.1	<.1
T10 SELENIUM MG/L	<.001	<.001	<.001	<.001
T11 SILVER MG/L	<.001	<.001	<.02	<.001
T12 THALLIUM MG/L	<.3	<.3	<.3	<.3
T13 ZINC MG/L	.02	.12	.734	.01
T14 CYANIDE MG/L	<.005	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984

MONITORING WELL

000652

	CR-1-22 10/27/83	CR-1-22 04/26/84	CR-1-50 02/08/84	CR-1-50 04/26/84
	N313539 /N313544	N406515 /N406520	N401822 /N401825	N406514 /N406519
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS	MG/L .002	<.002	<.002	<.002
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1 ACROLEIN	UG/L <100.0	NT	NT	NT
V2 ACRYLONITRILE	UG/L <100.0	NT	NT	NT
V3 BENZENE	UG/L <10.0	<1.0	<.1	<1.0
V4 BIS (CHLOROMETHYL) ETHER	UG/L <10.0	<4.0	<1.0	<4.0
V5 BROMOFORM	UG/L <10.0	<1.0	<1.0	<1.0
V6 CARBON TETRACHLORIDE	UG/L <10.0	<1.0	<1.0	<1.0
V7 CHLOROBENZENE	UG/L <10.0	<1.0	<1.0	<1.0
V9 CHLOROETHANE	UG/L <10.0	<1.0	<1.0	<1.0
V10 2-CHLOROETHYLVINYL ETHER	UG/L <10.0	NT	NT	NT
V11 CHLOROFORM	UG/L <10.0	1.2	<1.0	1.1
V12 BROMODICHLOROMETHANE	UG/L <10.0	<1.0	<1.0	<1.0
V13 DICHLORODIFLUOROMETHANE	UG/L <10.0	NT	NT	NT
V14 1,1-DICHLOROETHANE	UG/L <10.0	<1.0	<1.0	<1.0
V15 1,2-DICHLOROETHANE	UG/L <10.0	<1.0	<1.0	<1.0
V16 1,1-DICHLOROETHYLENE	UG/L <10.0	<1.0	<1.0	<1.0
V17 1,2-DICHLOROPROPANE	UG/L <10.0	<1.0	<1.0	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE *	UG/L <10.0	<1.0	<1.0	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE	UG/L <10.0	<1.0	<1.0	<1.0
V20 ETHYLBENZENE	UG/L <10.0	<1.0	<.1	<1.0
V21 BROMOMETHANE	UG/L <10.0	<1.0	<1.0	<1.0
V22 CHLOROMETHANE	UG/L <10.0	<1.0	<1.0	<1.0
V23 METHYLENE CHLORIDE	UG/L <10.0	10.4***	<1.0	9.8***
V25 TETRACHLOROETHYLENE **	UG/L <10.0	<1.0	<1.0	<1.0
V26 TOLUENE	UG/L <10.0	<1.0	<.1	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE	UG/L <10.0	<1.0	<1.0	<1.0
V28 1,1,1-TRICHLOROETHANE	UG/L <10.0	<1.0	<1.0	<1.0
V30 TRICHLOROETHYLENE	UG/L <10.0	<1.0	<1.0	<1.0
V31 TRICHLOROFLUOROMETHANE	UG/L <10.0	<1.0	<1.0	<1.0
V32 VINYL CHLORIDE	UG/L <10.0	<1.0	<1.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

000653

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-1-22 10/27/83	CR-1-22 04/26/84	CR-1-50 02/08/84	CR-1-50 04/26/84
	N313539 /N313544	N406515 /N406520	N401822 /N401825	N406514 /N406519

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	NT	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	29.0	42.0	<10.0	22.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<.2	<10.0 <1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<.3	<10.0 <1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<.2	<10.0 <1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	19.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

		CR-1-22 10/27/83	CR-1-22 04/26/84	CR-1-50 02/08/84	CR-1-50 04/26/84
		N313539 /N313544	N406515 /N406520	N401822 /N401825	N406514 /N406519
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	NT	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L			
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

000654

000655

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-1-22 10/27/83	CR-1-22 04/26/84	CR-1-50 02/08/84	CR-1-50 04/26/84
	N313539 /N313544	N406515 /N406520	N401822 /N401825	N406514 /N406519
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P3 BETA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P4 GAMMA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P5 DELTA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P6 CHLORDANE	UG/L <10.0	<10.0	<10.0	<10.0
P7 4,4'-DDT	UG/L <10.0	<10.0	<10.0	<10.0
P8 4,4'-DDE	UG/L <10.0	<10.0	<10.0	<10.0
P9 4,4'-DDD	UG/L <10.0	<10.0	<10.0	<10.0
P10 DIELDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P11 ALPHA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P12 BETA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P13 ENDOSULFAN SULFATE	UG/L <10.0	<10.0	<10.0	<10.0
P14 ENDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P15 ENDRIN ALDEHYDE	UG/L <10.0	<10.0	<10.0	<10.0
P16 HEPTACHLOR	UG/L <10.0	<10.0	<10.0	<10.0
P17 HEPTACHLOR EPOXIDE	UG/L <10.0	<10.0	<10.0	<10.0
P18 PCB-1242	UG/L <10.0	<10.0	<10.0	<10.0
P19 PCB-1254	UG/L <10.0	<10.0	<10.0	<10.0
P20 PCB-1221	UG/L <10.0	<10.0	<10.0	<10.0
P21 PCB-1232	UG/L <10.0	<10.0	<10.0	<10.0
P22 PCB-1248	UG/L <10.0	<10.0	<10.0	<10.0
P23 PCB-1260	UG/L <10.0	<10.0	<10.0	<10.0
P24 PCB-1016	UG/L <10.0	<10.0	<10.0	<10.0
P25 TOXAPHENE	UG/L <10.0	<10.0	<10.0	<10.0
P26 2,4-D	UG/L <1.0	<1.0	<1.0	<1.0
P27 2,4,5-TP	UG/L <.5	<.5	<.5	<.5
CATEGORY 5 PARAMETERS				
C53 GROSS A RADIOACTIVITY	PC I/L <2.0	<2.0	<2.0	<2.0
C55 GROSS B RADIOACTIVITY	PC I/L <3.0	<3.0	<3.0	3.0
C57 TOTAL RADIUM	PC I/L <1.0	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

			CR-2-27 10/27/83	CR-2-27 04/26/84	CR-3-22 10/28/83	CR-3-22 04/26/84
			N313541 /N313546	N406516 /N406521	N313625 /N313620	N406518 /N406523
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	283.0	87.0	760.0	186.0
C2	TOTAL ORGANIC HALIDE	UG/L	29.0	25.0	NT	30.0
C3	BOD	MG/L	19.0	<3.0	11.0	209.0
C4	COD	MG/L	166.0	130.0	144.0	340.0
C5	SPECIFIC CONDUCTANCE	UMHOS	205.0	213.0	2807.0	3330.0
C6	PH	SU	5.6	6.0	7.2	7.2
C7	TEMPERATURE	DEG. C	13.0	11.1	18.0	15.0
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	.2	.09	350.0	430.0
C9	BORON	MG/L	.04	<1.0	.13	<.1
C10	CHLORIDE	MG/L	14.6	18.2	15.9	4.7
C11	FLUORIDE	MG/L	.04	<.1	.64	.44
C12	IRON	MG/L	<.04	<.04	1.44	5.69
C14	NITRATE	MG/L	4.98	8.87	.71	14.1
C15	PHOSPHATE	MG/L	.03	.06	<.01	.44
C16	SULFATE	MG/L	37.9	30.6	440.0	721.0
C17	SODIUM	MG/L	10.0	9.07	17.1	15.8
C18	POTASSIUM	MG/L	2.72	1.72	6.2	10.7
C43	BARIUM (GF)	MG/L	.04	.04	.026	.094
C52	MANGANESE	MG/L	3.11	3.98	1.58	2.08
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	3.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	<1.0	1.0	<1.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	.047	.04	.07	.43
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

000656

000657

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

			CR-2-27 10/27/83	CR-2-27 04/26/84	CR-3-22 10/28/83	CR-3-22 04/26/84
			N313541 /N313546	N406516 /N406521	N313625 /N313620	N406518 /N406523
	CATEGORY 3 PARAMETERS					
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL-CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	NT	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	5.6
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
	CATEGORY 4 - OTHER PARAMETERS					
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.001	.01	.009	.015
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0009	.001	<.0005	<.0005
T5	CHROMIUM (GF)	MG/L	.002	.005	.011	.005
T6	COPPER	MG/L	.05	<.03	.07	<.03
T7	LEAD (GF)	MG/L	<.002	.021	<.002	<.002
T8	MERCURY	MG/L	<.0004	<.0002	<.0002	<.0002
T9	NICKEL	MG/L	.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

000658

			CR-2-27 10/27/83	CR-2-27 04/26/84	CR-3-22 10/28/83	CR-3-22 04/26/84
			N313541 /N313546	N406516 /N406521	N313625 /N313620	N406518 /N406523
CATEGORY 4 - OTHER PARAMETERS						
T13	ZINC	MG/L	.02	.01	.03	.03
T14	CYANIDE	MG/L	<.005	<.005	<.005	.005
T15	PHENOLS	MG/L	<.002	<.002	.03	.014
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS						
V1	ACROLEIN	UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	<100.0	NT
V3	BENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	16.1***	<10.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L	<10.0	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	1.7	<10.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	12.0	6.4	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

000659

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

	CR-2-27 10/27/83	CR-2-27 04/26/84	CR-3-22 10/28/83	CR-3-22 04/26/84
	N313541 /N313546	N406516 /N406521	N313625 /N313620	N406518 /N406523
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V31 TRICHLOROFLUOROMETHANE UG/L	<10.0	NT	<10.0	<1.0
V32 VINYL CHLORIDE UG/L	<10.0	<1.0	<10.0	<.1
				<1.0
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B1 ACENAPHTHENE UG/L	<10.0	<10.0	<10.0	<10.0
B2 ACENAPHTHYLENE UG/L	<10.0	<10.0	<10.0	<10.0
B3 ANTHRACENE UG/L	<10.0	<10.0	<10.0	<10.0
B4 BENZIDINE UG/L	<10.0	<10.0	<10.0	<10.0
B5 BENZO (A) ANTHRACENE UG/L	<10.0	<10.0	<10.0	<10.0
B6 BENZO (A) PYRENE UG/L	<10.0	<10.0	<10.0	<10.0
B7 3,4-BENZOFLUORANTHENE UG/L	<10.0	NT	<10.0	NT
B8 BENZO (GHI) PERYLENE UG/L	<25.0	<25.0	<25.0	<25.0
B9 BENZO (K) FLUORANTHENE UG/L	<10.0	<10.0	<10.0	<10.0
B10 BIS (2-CHLOROETHOXY) METHANE UG/L	<10.0	<10.0	<10.0	<10.0
B11 BIS (2-CHLOROETHYL) ETHER UG/L	12.0	<10.0	<10.0	<10.0
B12 BIS(2-CHLOROISOPROPYL) ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B13 BIS (2-ETHYLHEXYL) PHTHALATE UG/L	12.0	28.0	25.0	<10.0
B14 4-BROMOPHENYL PHENYL ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B15 BUTYL BENZYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B16 2-CHORONAPHTHALENE UG/L	<10.0	<10.0	<10.0	<10.0
B17 4-CHOROPHENYL PHENYL ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B18 CHRYSENE UG/L	<10.0	<10.0	<10.0	<10.0
B19 DIBENZO (A,H) ANTHRACENE UG/L	<25.0	<25.0	<25.0	<25.0
B20 1,2-DICHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<10.0
		<10.0		<1.0
B21 1,3-DICHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<10.0
		<10.0		<1.0
B22 1,4-DICHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<10.0
		<10.0		<1.0
B23 3,3'-DICHLOROBENZIDINE UG/L	<10.0	<10.0	<10.0	<10.0
B24 DIETHYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

	CR-2-27 10/27/83	CR-2-27 04/26/84	CR-3-22 10/28/83	CR-3-22 04/26/84
	N313541 /N313546	N406516 /N406521	N313625 /N313620	N406518 /N406523

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0

NT-NOT TESTED AS PART OF THIS STUDY

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

			CR-2-27 10/27/83	CR-2-27 04/26/84	CR-3-22 10/28/83	CR-3-22 04/26/84
			N313541 /N313546	N406516 /N406521	N313625 /N313620	N406518 /N406523
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 30, 1984
MONITORING WELL

		CR-2-27 10/27/83	CR-2-27 04/26/84	CR-3-22 10/28/83	CR-3-22 04/26/84
		N313541 /N313546	N406516 /N406521	N313625 /N313620	N406518 /N406523
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P27	2,4,5-TP	UG/L <.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS				
C53	GROSS A RADIOACTIVITY	PC I/L 38.0	<2.0	14.0	7.0
C55	GROSS B RADIOACTIVITY	PC I/L 20.0	<3.0	15.0	8.0
C57	TOTAL RADIUM	PC I/L <1.0	3.0	<1.0	2.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-3-45 10/28/83	CR-3-45 04/26/84	CR-3-70 02/13/84	CR-3-70 05/09/84
			N313624 /N313619	N406517 /N406522	N402033 /N402036	N407325 /N407329
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	2413.0	271.0	29.0	13.0
C2	TOTAL ORGANIC HALIDE	UG/L	229.0	74.0	NT	33.0
C3	BOD	MG/L	1345.0	44.0	NT	31.0
C4	COD	MG/L	3320.0	540.0	33.0	36.0
C5	SPECIFIC CONDUCTANCE	UMHOS	13530.0	4120.0	150.0	225.0
C6	PH	SU	7.6	7.8	6.9	8.1
C7	TEMPERATURE	DEG. C	16.0	15.6	13.9	13.3
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	225.0	645.0	.2	.1
C9	BORON	MG/L	.05	<.1	.05	<.1
C10	CHLORIDE	MG/L	54.9	14.0	2.86	.5
C11	FLUORIDE	MG/L	1.1	.56	.1	.2
C12	IRON	MG/L	5.83	.74	.38	<.04
C14	NITRATE	MG/L	.97	.08	<.09	<.05
C15	PHOSPHATE	MG/L	3.0	3.97	.02	.07
C16	SULFATE	MG/L	948.0	466.0	5.58	1.0
C17	SODIUM	MG/L	55.8	26.9	15.2	30.7
C18	POTASSIUM	MG/L	12.6	20.5	5.2	18.8
C43	BARIUM (GF)	MG/L	.011	.193	.048	.074
C52	MANGANESE	MG/L	NT	.23	.06	.05
C60	SULFIDE AS S	MG/L	<1.0	8.0	<1.0	<1.0
C61	TIN	MG/L	<.76	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	<1.0	1.0	2.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	5.01	.53	.07	.03
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-3-45 10/28/83	CR-3-45 04/26/84	CR-3-70 02/13/84	CR-3-70 05/09/84
			N313624 /N313619	N406517 /N406522	N402033 /N402036	N407325 /N407329
		CATEGORY 3 PARAMETERS				
C24	ISOPROPYL ALCOHOL	MG/L	30.0	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	48.0	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	NT	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	9.5	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
		CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L	<.15	<.15	.38	<.15
T2	ARSENIC (GF)	MG/L	.09	.024	<.001	.007
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.0005	.0009	<.01	.0006
T5	CHROMIUM (GF)	MG/L	.055	.019	<.02	.005
T6	COPPER	MG/L	.05	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	<.002	.002	.003
T8	MERCURY	MG/L	.0002	<.0002	.0002	.0009
T9	NICKEL	MG/L	.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.02	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.04	.08	.02	<.01
T14	CYANIDE	MG/L	<.013	.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-3-45 10/28/83	CR-3-45 04/26/84	CR-3-70 02/13/84	CR-3-70 05/09/84
	N313624 /N313619	N406517 /N406522	N402033 /N402036	N407325 /N407329
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS MG/L	.75	.024	.002	.005
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1 ACROLEIN UG/L	<100.0	NT	NT	NT
V2 ACRYLONITRILE UG/L	<100.0	NT	NT	NT
V3 BENZENE UG/L	<10.0	<1.0	NT	<1.0
V4 BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	NT	<4.0
V5 BROMOFORM UG/L	<10.0	<1.0	<1.0	<1.0
V6 CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<1.0	<1.0
V7 CHLOROBENZENE UG/L	<10.0	<1.0	<1.0	<1.0
V9 CHLOROETHANE UG/L	<10.0	<1.0	<1.0	<1.0
V10 2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	NT	NT
V11 CHLOROFORM UG/L	<10.0	<1.0	<1.0	<1.0
V12 BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<1.0	<1.0
V13 DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	NT	NT
V14 1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<1.0	<1.0
V15 1,2-DICHLOROETHANE UG/L	<10.0	1.2	<1.0	<1.0
V16 1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<1.0	<1.0
V17 1,2-DICHLOROPROPANE UG/L	<10.0	<1.0	<1.0	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE * UG/L	<10.0	<1.0	<1.0	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE UG/L	<10.0	<1.0	<1.0	<1.0
V20 ETHYLBENZENE UG/L	<10.0	<1.0	NT	<1.0
V21 BROMOMETHANE UG/L	<10.0	<1.0	<1.0	<1.0
V22 CHLOROMETHANE UG/L	<10.0	<1.0	<1.0	<1.0
V23 METHYLENE CHLORIDE UG/L	<10.0	1.3***	3.4	<1.0
V25 TETRACHLOROETHYLENE ** UG/L	<10.0	<1.0	<1.0	<1.0
V26 TOLUENE UG/L	<10.0	<1.0	NT	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE UG/L	<10.0	<1.0	<1.0	<1.0
V28 1,1,1-TRICHLOROETHANE UG/L	<10.0	<1.0	<1.0	<1.0
V30 TRICHLOROETHYLENE UG/L	<10.0	1.0	<1.0	<1.0
V31 TRICHLOROFLUOROMETHANE UG/L	<10.0	<1.0	<1.0	<1.0
V32 VINYL CHLORIDE UG/L	<10.0	<1.0	<1.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-3-45 10/28/83	CR-3-45 04/26/84	CR-3-70 02/13/84	CR-3-70 05/09/84
			N313624 /N313619	N406517 /N406522	N402033 /N402036	N407325 /N407329
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	NT	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	12.0	<10.0	53.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<10.0	<1.0 <10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<10.0	<1.0 <10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<1.0 <10.0	<10.0	<1.0 <10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

999000

000667

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

		CR-3-45 10/28/83	CR-3-45 04/26/84	CR-3-70 02/13/84	CR-3-70 05/09/84
		N313624 /N313619	N406517 /N406522	N402033 /N402036	N407325 /N407329
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B35	HEXACHLOROCYCLOPENTADIENE	UG/L <10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L <10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L <25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L <10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L <10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L <10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L <10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L 200.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L <10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L <10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L 10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L <10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L NT	<10.0	<10.0	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1	2-CHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L 250.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L <250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L <250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L <25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1	ALDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L <10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-3-45 10/28/83	CR-3-45 04/26/84	CR-3-70 02/13/84	CR-3-70 05/09/84
	N313624 /N313619	N406517 /N406522	N402033 /N402036	N407325 /N407329

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

899000

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	15.0	<2.0	2.0
C55	GROSS B RADIOACTIVITY	PC I/L	12.0	12.0	5.0	11.0
C57	TOTAL RADIUM	PC I/L	1.1	3.0	NT	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

000669

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-4-20 10/27/83	CR-4-20 04/27/84	CR-4-50 10/27/83	CR-4-50 04/27/84
			N313538 /N313543	N406685 /N406689	N313537 /N313542	N406684 /N406688
			N402804 /	/	N402803 /	/
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	44.0	3.0	416.0	76.0
C2	TOTAL ORGANIC HALIDE	UG/L	64.0	<20.0	247.0	165.0
C3	BOD	MG/L	4.0	<3.0	170.0	32.0
C4	COD	MG/L	26.0	12.0	685.0	175.0
C5	SPECIFIC CONDUCTANCE	UMHOS	221.0	240.0	2100.0	416.0
C6	PH	SU	5.5	5.4	6.0	6.3
C7	TEMPERATURE	DEG. C	14.0	10.0	13.0	12.8
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	<.05	1.48	200.0	45.0
C9	BORON	MG/L	<.002	<.1	<.002	<.1
C10	CHLORIDE	MG/L	19.1	14.5	19.6	11.2
C11	FLUORIDE	MG/L	.06	<.1	.1	<1.0
C12	IRON	MG/L	.06	<.04	5.16	5.38
C14	NITRATE	MG/L	1.07	6.41	2.39	.24
C15	PHOSPHATE	MG/L	<.01	.01	<.01	.13
C16	SULFATE	MG/L	41.9	49.1	363.0	53.5
C17	SODIUM	MG/L	10.3	9.07	99.1	6.1
C18	POTASSIUM	MG/L	2.72	3.33	3.59	2.29
C43	BARIUM (GF)	MG/L	.078	.058	.034	.025
C52	MANGANESE	MG/L	.51	.62	1.72	.77
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.2	1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	<1.0	<1.0	<1.0	<1.0
C20	SURFACTANTS (MBAS)	MG/L	.28	<.03	1.1	.29
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-4-20 10/27/83	CR-4-20 04/27/84	CR-4-50 10/27/83	CR-4-50 04/27/84
			N313538 /N313543	N406685 /N406689	N313537 /N313542	N406684 /N406688
			N402804 /	/	N402803 /	/
			CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
			CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	<.001	.009	.001	.007
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0012	.0008	<.0005	<.0005
T5	CHROMIUM (GF)	MG/L	.002	.004	.013	.004
T6	COPPER	MG/L	.05	<.03	.05	<.03
T7	LEAD (GF)	MG/L	<.002	.004	<.002	<.002
T8	MERCURY	MG/L	<.0002	<.0002	<.0002	<.0002
T9	NICKEL	MG/L	.1	<.1	.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.12	.13	.02	.22
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005

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NT-NOT TESTED AS PART OF THIS STUDY

T19000

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-4-20 10/27/83	CR-4-20 04/27/84	CR-4-50 10/27/83	CR-4-50 04/27/84
	N313538 /N313543	N406685 /N406689	N313537 /N313542	N406684 /N406688
	N402804 /	/	N402803 /	/

CATEGORY 4 - OTHER PARAMETERS

T15	PHENOLS	MG/L	.007	<.002	<.024	.014

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V1	ACROLEIN	UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	<100.0	NT
V3	BENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L	<10.0	1.0***	<10.0	1.0***
			.1		.1	
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	13.0	<1.0
			<.1		1.6	
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK [illegible]ECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-4-20 10/27/83	CR-4-20 04/27/84	CR-4-50 10/27/83	CR-4-50 04/27/84
	N313538 /N313543	N406685 /N406689	N313537 /N313542	N406684 /N406688
	N402804 /	/	N402803 /	/

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V22	CHLOROMETHANE	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0 1.1***	8.6	<10.0 4.5***	16.8
V25	TETRACHLORETHYLENE **	UG/L	<10.0 <.1	<1.0	<10.0 <.1	1.3
V26	TOLUENE	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	12.0 3.3	<1.0	60.0 30.5	30.1
V30	TRICHLOROETHYLENE	UG/L	57.0 5.9	<1.0	470.0 180.0	197.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0

27900

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	17.0	<10.0	15.0	30.0

NT-NOT TESTED AS PART OF THIS STUDY

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000613

	CR-4-20 10/27/83	CR-4-20 04/27/84	CR-4-50 10/27/83	CR-4-50 04/27/84
	N313538 /N313543	N406685 /N406689	N313537 /N313542	N406684 /N406688
	N402804 /	/	N402803 /	/

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1	<10.0	<.1	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1	<10.0	<.1	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1	<10.0	<.1	<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

		CR-4-20 10/27/83	CR-4-20 04/27/84	CR-4-50 10/27/83	CR-4-50 04/27/84
		N313538 /N313543	N406685 /N406689	N313537 /N313542	N406684 /N406688
		N402804 /	/	N402803 /	/
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
847	BENZO(B) FLUORANTHENE UG/L	NT	<10.0	NT	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1	2-CHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1	ALDRIN UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

0067400

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000675

			CR-4-20 10/27/83	CR-4-20 04/27/84	CR-4-50 10/27/83	CR-4-50 04/27/84
			N313538 /N313543	N406685 /N406689	N313537 /N313542	N406684 /N406688
			N402804 /	/	N402803 /	/
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	25.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0	20.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 6 PARAMETERS					
C63	DIOXIN	PPB	NT	NT	<.006	NT

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-4-90 03/05/84	CR-4-90 05/09/84	CR-5-27 10/28/83	CR-5-27 04/27/84
			N403227 /N403228	N407326 /N407330	N313626 /N313621	N406687 /N406691
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	NT	13.0	32.0	18.0
C2	TOTAL ORGANIC HALIDE	UG/L	NT	71.0	<20.0	194.0
C3	BOD	MG/L	NT	13.0	18.0	4.0
C4	COD	MG/L	53.0	25.0	128.0	57.0
C5	SPECIFIC CONDUCTANCE	UMHOS	2390.0	1214.0	768.0	1360.0
C6	PH	SU	11.8	11.5	8.6	6.6
C7	TEMPERATURE	DEG. C	12.2	12.2	16.0	12.8
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	2.75	1.25	40.0	66.0
C9	BORON	MG/L	NT	.1	.11	.1
C10	CHLORIDE	MG/L	NT	5.1	6.54	14.0
C11	FLUORIDE	MG/L	NT	.45	.34	.3
C12	IRON	MG/L	NT	<.04	<.04	9.11
C14	NITRATE	MG/L	NT	<.05	6.67	16.6
C15	PHOSPHATE	MG/L	NT	.05	<.01	.44
C16	SULFATE	MG/L	284.4	86.4	182.0	398.0
C17	SODIUM	MG/L	NT	71.7	14.8	13.9
C18	POTASSIUM	MG/L	NT	27.1	12.7	6.32
C43	BARIUM (GF)	MG/L	NT	.085	.045	.112
C52	MANGANESE	MG/L	NT	<.02	3.32	27.1
C60	SULFIDE AS S	MG/L	NT	1.0	<1.0	<1.0
C61	TIN	MG/L	NT	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	NT	1.0	<1.0	<1.0
C20	SURFACTANTS (MBAS)	MG/L	.12	.08	.042	<.03
C21	METHYL ETHYL KETONE	MG/L	NT	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	NT	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	NT	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

000676

000677

RUHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

		CR-4-90 03/05/84	CR-4-90 05/09/84	CR-5-27 10/28/83	CR-5-27 04/27/84
		N403227 /N403228	N407326 /N407330	N313626 /N313621	N406687 /N406691
	CATEGORY 3 PARAMETERS				
C24	ISOPROPYL ALCOHOL	MG/L	NT	<.1	<.1	<.1
C25	ETHANOL	MG/L	NT	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	NT	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	NT	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	NT	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	NT	<.1	<.1	<.1
C30	STYRENE	MG/L	NT	<.1	<.1	<.1
C31	ACETONE	MG/L	NT	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	NT	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	NT	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	NT	<.1	<.1	<.1
C35	DITHANE	MG/L	NT	<.02	<.02	<.02
C36	LETHANE	MG/L	NT	<.001	<.001	<.001
C37	KARATHANE	MG/L	NT	<.01	<.01	<.01
C38	DNCP	MG/L	NT	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
	CATEGORY 4 - OTHER PARAMETERS					
T1	ANTIMONY	MG/L	NT	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	NT	.006	.003	.009
T3	BERYLLIUM	MG/L	NT	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	NT	.006	<.0005	.003
T5	CHROMIUM (GF)	MG/L	NT	.005	.004	.005
T6	COPPER	MG/L	NT	<.03	.07	<.03
T7	LEAD (GF)	MG/L	NT	.004	<.002	<.002
T8	MERCURY	MG/L	NT	.0017	.0005	<.0002
T9	NICKEL	MG/L	NT	<.1	.1	<.1
T10	SELENIUM	MG/L	NT	<.001	<.001	<.001
T11	SILVER	MG/L	NT	<.001	<.001	<.001
T12	THALLIUM	MG/L	NT	<.3	<.3	<.3
T13	ZINC	MG/L	NT	<.01	<.01	.26
T14	CYANIDE	MG/L	NT	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000918

		CR-4-90 03/05/84	CR-4-90 05/09/84	CR-5-27 10/28/83	CR-5-27 04/27/84
		N403227 /N403228	N407326 /N407330	N313626 /N313621	N406687 /N406691
	CATEGORY 4 - OTHER PARAMETERS				
T15	PHENOLS MG/L	NT	.016	.01	.013
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN UG/L	NT	NT	<100.0	NT
V2	ACRYLONITRILE UG/L	NT	NT	<100.0	NT
V3	BENZENE UG/L	<.1	<1.0	<10.0	3.5
V4	BIS (CHLOROMETHYL) ETHER UG/L	NT	<4.0	<10.0	<4.0
V5	BROMOFORM UG/L	<.1	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE UG/L	<.1	<1.0	<10.0	<1.0
V7	CHLOROBENZENE UG/L	<.1	<1.0	<10.0	<1.0
V9	CHLOROETHANE UG/L	<.1	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER UG/L	NT	NT	<10.0	NT
V11	CHLOROFORM UG/L	10.3	<1.0	<10.0	<1.0
V12	BROMODICHLOROMETHANE UG/L	<.1	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE UG/L	NT	NT	<10.0	NT
V14	1,1-DICHLOROETHANE UG/L	<.1	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE UG/L	<.1	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE UG/L	<.1	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE UG/L	<.1	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE * UG/L	<.1	<1.0	<10.0	1.8
V19	TRANS-1,3-DICHLOROPROPYLENE UG/L	<.1	<1.0	<10.0	<1.0
V20	ETHYLBENZENE UG/L	<.1	<1.0	<10.0	<1.0
V21	BROMOMETHANE UG/L	<.1	<1.0	<10.0	<1.0
V22	CHLOROMETHANE UG/L	<.1	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE UG/L	1.6	<1.0	<10.0	<1.0
V25	TETRACHLOROETHYLENE ** UG/L	<1.4	<1.0	<10.0	<1.0
V26	TOLUENE UG/L	<.1	2.4	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE UG/L	<.1	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE UG/L	<.1	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE UG/L	<.1	<1.0	<10.0	<1.0
V31	TRICHLOROFLUOROMETHANE UG/L	<.1	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE UG/L	<.1	<1.0	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000679

			CR-4-90 03/05/84	CR-4-90 05/09/84	CR-5-27 10/28/83	CR-5-27 04/27/84
			N403227 /N403228	N407326 /N407330	N313626 /N313621	N406687 /N406691
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B2	ACENAPHTHYLENE	UG/L	NT	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	NT	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	NT	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	NT	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	NT	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	NT	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	NT	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	NT	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	NT	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	NT	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	NT	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	NT	110.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	NT	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	NT	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	NT	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	NT	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	NT	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	NT	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<.1	<1.0 <10.0	<10.0	<10.0 <1.0
B21	1,3-DICHLOROBENZENE	UG/L	<.1	<1.0 <10.0	<10.0	<10.0 <1.0
B22	1,4-DICHLOROBENZENE	UG/L	<.1	<1.0 <10.0	<10.0	<10.0 <1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	NT	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	NT	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	NT	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	NT	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	NT	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	NT	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	NT	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	NT	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	NT	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	NT	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	NT	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	NT	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

		CR-4-90 03/05/84	CR-4-90 05/09/84	CR-5-27 10/28/83	CR-5-27 04/27/84
		N403227 /N403228	N407326 /N407330	N313626 /N313621	N406687 /N406691
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	NT	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	NT	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	NT	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	NT	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	NT	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	NT	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	NT	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	NT	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	NT	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	NT	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	NT	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	NT	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	NT	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	NT	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	NT	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	NT	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	NT	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	NT	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	NT	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	NT	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	NT	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	NT	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	NT	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	NT	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	NT	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-4-90 03/05/84	CR-4-90 05/09/84	CR-5-27 10/28/83	CR-5-27 04/27/84
	N403227 /N403228	N407326 /N407330	N313626 /N313621	N406687 /N406691
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P3 BETA-BHC	UG/L NT	<10.0	<10.0	<10.0
P4 GAMMA-BHC	UG/L NT	<10.0	<10.0	<10.0
P5 DELTA-BHC	UG/L NT	<10.0	<10.0	<10.0
P6 CHLORDANE	UG/L NT	<10.0	<10.0	<10.0
P7 4,4'-DDT	UG/L NT	<10.0	<10.0	<10.0
P8 4,4'-DDE	UG/L NT	<10.0	<10.0	<10.0
P9 4,4'-DDD	UG/L NT	<10.0	<10.0	<10.0
P10 DIELDRIN	UG/L NT	<10.0	<10.0	<10.0
P11 ALPHA-ENDOSULFAN	UG/L NT	<10.0	<10.0	<10.0
P12 BETA-ENDOSULFAN	UG/L NT	<10.0	<10.0	<10.0
P13 ENDOSULFAN SULFATE	UG/L NT	<10.0	<10.0	<10.0
P14 ENDRIN	UG/L NT	<10.0	<10.0	<10.0
P15 ENDRIN ALDEHYDE	UG/L NT	<10.0	<10.0	<10.0
P16 HEPTACHLOR	UG/L NT	<10.0	<10.0	<10.0
P17 HEPTACHLOR EPOXIDE	UG/L NT	<10.0	<10.0	<10.0
P18 PCB-1242	UG/L NT	<10.0	<10.0	<10.0
P19 PCB-1254	UG/L NT	<10.0	<10.0	<10.0
P20 PCB-1221	UG/L NT	<10.0	<10.0	<10.0
P21 PCB-1232	UG/L NT	<10.0	<10.0	<10.0
P22 PCB-1248	UG/L NT	<10.0	<10.0	<10.0
P23 PCB-1260	UG/L NT	<10.0	<10.0	<10.0
P24 PCB-1016	UG/L NT	<10.0	<10.0	<10.0
P25 TOXAPHENE	UG/L NT	<10.0	<10.0	<10.0
P26 2,4-D	UG/L NT	<1.0	<1.0	<1.0
P27 2,4,5-TP	UG/L NT	<.5	<.5	<.5
CATEGORY 5 PARAMETERS				
C53 GROSS A RADIOACTIVITY	PC I/L NT	<2.0	28.0	<2.0
C55 GROSS B RADIOACTIVITY	PC I/L NT	35.0	20.0	3.0
C57 TOTAL RADIUM	PC I/L NT	<1.0	<1.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-6-20 10/26/83	CR-6-20 04/27/84	CR-7-20 10/27/83	CR-7-20 04/27/84
			N313482 /N313487	N406786 /N406791	N313540 /N313545	N406787 /N406792
			N402805 /	/	N402806 /	/
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	57.0	<1.0	169.0	4.0
C2	TOTAL ORGANIC HALIDE	UG/L	NT	48.0	NT	27.0
C3	BOD	MG/L	54.0	4.0	3.0	8.0
C4	COD	MG/L	287.0	4.0	24.0	20.0
C5	SPECIFIC CONDUCTANCE	UMHOS	1080.0	429.0	257.0	144.0
C6	PH	SU	6.3	6.2	4.9	5.5
C7	TEMPERATURE	DEG. C	15.0	9.5	13.0	8.3
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	1.07	6.5	<.05	<.05
C9	BORON	MG/L	.13	<.1	.03	<.1
C10	CHLORIDE	MG/L	126.0	30.4	43.3	11.2
C11	FLUORIDE	MG/L	.07	<.1	.05	<.1
C12	IRON	MG/L	7.57	.5	<.04	<.04
C14	NITRATE	MG/L	.18	2.48	.5	.28
C15	PHOSPHATE	MG/L	.6	.04	<.01	.02
C16	SULFATE	MG/L	183.0	108.0	35.0	30.5
C17	SODIUM	MG/L	8.08	23.2	26.1	7.59
C18	POTASSIUM	MG/L	6.06	2.12	2.58	.71
C43	BARIUM (GF)	MG/L	.095	.027	.061	.038
C52	MANGANESE	MG/L	14.4	6.33	.28	.04
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	<1.0	2.0	<1.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	.7	<.03	.202	<.03
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000683

			CR-6-20 10/26/83	CR-6-20 04/27/84	CR-7-20 10/27/83	CR-7-20 04/27/84
			N313482 /N313487	N406786 /N406791	N313540 /N313545	N406787 /N406792
			N402805 /	/	N402806 /	/
	CATEGORY 3 PARAMETERS					
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
	CATEGORY 4 - OTHER PARAMETERS					
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.004	.011	.001	.011
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0012	.001	.0009	.001
T5	CHROMIUM (GF)	MG/L	.008	.003	<.002	.003
T6	COPPER	MG/L	.05	<.03	.07	<.03
T7	LEAD (GF)	MG/L	<.002	.004	<.002	.004
T8	MERCURY	MG/L	<.0002	<.0002	<.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1	.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.18	.03	<.01	.03
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-6-20 10/26/83	CR-6-20 04/27/84	CR-7-20 10/27/83	CR-7-20 04/27/84
	N313482 /N313487	N406786 /N406791	N313540 /N313545	N406787 /N406792
	N402805 /	/	N402806 /	/

CATEGORY 4 - OTHER PARAMETERS

T15	PHENOLS	MG/L	.008	<.002	.002	<.002

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V1	ACROLEIN	UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	<100.0	NT
V3	BENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L	<10.0	<1.0	<10.0	<1.0
			.3		37.8	
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
			2.2		<.1	
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1		<.1	

000584

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000595

	CR-6-20 10/26/83	CR-6-20 04/27/84	CR-7-20 10/27/83	CR-7-20 04/27/84
	N313482 /N313487	N406786 /N406791	N313540 /N313545	N406787 /N406792
	N402805 /	/	N402806 /	/

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V22	CHLOROMETHANE	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0 4.4***	<1.0	<10.0 3.9***	<1.0
V25	TETRACHLORETHYLENE **	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0
V26	TOLUENE	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0 .4	<1.0	<10.0 <.1	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0 2.2	1.0	<10.0 .1	<1.0
V30	TRICHLOROETHYLENE	UG/L	10.0 14.7	5.1	<10.0 2.8	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0 <.1	<1.0	<10.0 <.1	<1.0

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	29.0	17.0	14.0

NT-NOT TESTED AS PART OF THIS STUDY

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT, SAMPLING QUALITY CONTROL BLANK C[illegible]CTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-6-20 10/26/83	CR-6-20 04/27/84	CR-7-20 10/27/83	CR-7-20 04/27/84
	N313482 /N313487	N406786 /N406791	N313540 /N313545	N406787 /N406792
	N402805 /	/	N402806 /	/

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1	<10.0	<.1	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1	<10.0	<.1	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
			<.1	<10.0	<.1	<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-6-20 10/26/83	CR-6-20 04/27/84	CR-7-20 10/27/83	CR-7-20 04/27/84
	N313482 /N313487	N406786 /N406791	N313540 /N313545	N406787 /N406792
	N402805 /	/	N402806 /	/

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B47	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-6-20 10/26/83	CR-6-20 04/27/84	CR-7-20 10/27/83	CR-7-20 04/27/84
			N313482 /N313487	N406786 /N406791	N313540 /N313545	N406787 /N406792
			N402805 /	/	N402806 /	/
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	18.0	<2.0	61.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	23.0	6.0	42.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	2.0	<1.0	2.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

			CR-8-17 10/31/83	CR-8-17 04/27/84	CR-9-25 10/31/83	CR-9-25 04/27/84
			N313693 /N313698	N406788 /N406793	N313694 /N313699	N406789 /N406794
			/	/	/	N412046 /
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	54.0	3.0	100.0	17.0
C2	TOTAL ORGANIC HALIDE	UG/L	10.0	<20.0	12.0	20.0
C3	BOD	MG/L	<10.0	5.0	90.0	7.0
C4	COD	MG/L	162.0	8.0	45.0	65.0
C5	SPECIFIC CONDUCTANCE	UMHOS	304.0	179.0	508.0	556.0
C6	PH	SU	6.1	6.0	6.4	6.3
C7	TEMPERATURE	DEG. C	15.0	10.5	16.0	12.8
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	<.05	<.05	10.6	12.3
C9	BORON	MG/L	.02	<.1	.1	.3
C10	CHLORIDE	MG/L	39.6	10.3	26.7	53.8
C11	FLUORIDE	MG/L	.05	<.1	.3	.14
C12	IRON	MG/L	<.04	<.04	86.6	79.1
C14	NITRATE	MG/L	1.79	1.23	<.05	<.25
C15	PHOSPHATE	MG/L	.09	.05	.03	.1
C16	SULFATE	MG/L	36.0	35.0	36.0	25.7
C17	SODIUM	MG/L	222.0	6.1	23.9	18.4
C18	POTASSIUM	MG/L	4.17	2.69	9.25	7.03
C43	BARIUM (GF)	MG/L	.094	.055	.128	.099
C52	MANGANESE	MG/L	.06	<.02	4.88	5.67
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	4.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	<1.0	<1.0	<1.0	<1.0
C20	SURFACTANTS (MBAS)	MG/L	.985	<.03	.191	.63
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 30, 1984
MONITORING WELL

			CR-8-17 10/31/83	CR-8-17 04/27/84	CR-9-25 10/31/83	CR-9-25 04/27/84
			N313693 /N313698	N406788 /N406793	N313694 /N313699	N406789 /N406794
			/	/	/	N412046 /
	CATEGORY 3 PARAMETERS					
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	176.0 426.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
	CATEGORY 4 - OTHER PARAMETERS					
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.001	.011	.012	.012
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.0005	.0005	<.0005	<.0005
T5	CHROMIUM (GF)	MG/L	<.002	.003	.011	.004
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	<.002	<.002	.002
T8	MERCURY	MG/L	<.0002	<.0002	.0006	<.0002
T9	NICKEL	MG/L	.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001

NT-NOT TESTED AS PART OF THIS STUDY

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000691

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

	CR-8-17 10/31/83	CR-8-17 04/27/84	CR-9-25 10/31/83	CR-9-25 04/27/84
	N313693 /N313698	N406788 /N406793	N313694 /N313699	N406789 /N406794
	/	/	/	N412046 /

CATEGORY 4 - OTHER PARAMETERS

T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.12	.14	.03	.02
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	<.002	<.002	.009	.005

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V1	ACROLEIN	UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	<100.0	NT
V3	BENZENE	UG/L	<10.0	<1.0	99.0	49.8
						89.3
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L	<10.0	<1.0	<10.0	4.9***
						<1.0
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	3.8
						<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	88.0	15.1
						<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
						2.9

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COL[illegible]TED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

000692

	CR-8-17 10/31/83	CR-8-17 04/27/84	CR-9-25 10/31/83	CR-9-25 04/27/84
	N313693 /N313698	N406788 /N406793	N313694 /N313699	N406789 /N406794
	/	/	/	N412046 /

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V25	TETRACHLOROETHYLENE **	UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L	<10.0	<1.0	630.0	22.0***
						27.3
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	1.9***
						2.8
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	17.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
				<10.0		<1.0

NT-NOT TESTED AS PART OF THIS STUDY

**1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

000693

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

			CR-8-17 10/31/83	CR-8-17 04/27/84	CR-9-25 10/31/83	CR-9-25 04/27/84
			N313693 /N313698	N406788 /N406793	N313694 /N313699	N406789 /N406794
			/	/	/	N412046 /

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

821	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<10.0	<1.0 <1.0
822	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<10.0	<1.0 <1.0
823	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
824	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
825	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
826	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
827	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
828	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
829	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
830	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
831	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
832	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
833	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
834	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
835	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
836	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
837	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
838	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
839	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
840	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
841	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
842	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
843	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
844	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
845	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
846	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
847	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

			CR-8-17 10/31/83	CR-8-17 04/27/84	CR-9-25 10/31/83	CR-9-25 04/27/84
			N313693 /N313698	N406788 /N406793	N313694 /N313699	N406789 /N406794
			/	/	/	N412046 /
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 30, 1984

			CR-8-17 10/31/83	CR-8-17 04/27/84	CR-9-25 10/31/83	CR-9-25 04/27/84
			N313693 /N313698	N406788 /N406793	N313694 /N313699	N406789 /N406794
			/	/	/	N412046 /
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS						
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
CATEGORY 5 PARAMETERS						
C53	GROSS A RADIOACTIVITY	PC I/L	10.0	2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	18.0	9.0	11.0	9.0
C57	TOTAL RADIUM	PC I/L	1.2	4.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-10-27 10/31/83	CR-10-27 04/27/84	CR-11-16 11/01/83	CR-11-16 05/02/84
			N313695 /N313700	N406790 /N406795	N313830 /N313834	N406971 /N406976
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	69.0	62.0	15.0	17.0
C2	TOTAL ORGANIC HALIDE	UG/L	33.0	49.0	28.0	58.0
C3	BOD	MG/L	169.0	24.0	12.0	6.0
C4	COD	MG/L	166.0	179.0	53.0	49.0
C5	SPECIFIC CONDUCTANCE	UMHOS	1505.0	2650.0	890.0	861.0
C6	PH	SU	6.6	6.5	6.4	6.6
C7	TEMPERATURE	DEG. C	13.0	12.2	16.0	10.0
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	6.0	12.5	4.5	3.0
C9	BORON	MG/L	.14	.3	.15	.1
C10	CHLORIDE	MG/L	159.0	81.8	112.0	107.6
C11	FLUORIDE	MG/L	.3	.14	.181	<.1
C12	IRON	MG/L	96.4	118.0	43.1	34.2
C14	NITRATE	MG/L	<.05	<.25	<.05	.17
C15	PHOSPHATE	MG/L	.69	.54	.22	.1
C16	SULFATE	MG/L	61.9	939.0	20.42	58.2
C17	SODIUM	MG/L	150.0	321.0	89.8	126.0
C18	POTASSIUM	MG/L	19.9	37.2	12.1	11.4
C43	BARIUM (GF)	MG/L	.398	.074	.16	.235
C52	MANGANESE	MG/L	5.5	8.17	2.87	2.71
C60	SULFIDE AS S	MG/L	<1.0	8.0	<1.0	1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	<1.0	8.0	<1.0	2.0
C20	SURFACTANTS (MBAS)	MG/L	.912	.64	.547	.18
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

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000697

ROHM AND HAAS LANDFILL · BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-10-27 10/31/83 N313695 /N313700	CR-10-27 04/27/84 N406790 /N406795	CR-11-16 11/01/83 N313830 /N313834	CR-11-16 05/02/84 N406971 /N406976
			CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	<.1	<.1
			CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.01	.008	.003	.009
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.0005	.001	<.0005	.0009
T5	CHROMIUM (GF)	MG/L	.013	.011	.011	.005
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	<.002	<.002	.003
T8	MERCURY	MG/L	.0004	<.0002	.0004	.0027
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.05	.04	.13	.29
T14	CYANIDE	MG/L	.006	NT	.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000698

		CR-10-27 10/31/83	CR-10-27 04/27/84	CR-11-16 11/01/83	CR-11-16 05/02/84
		N313695 /N313700	N406790 /N406795	N313830 /N313834	N406971 /N406976
	CATEGORY 4 - OTHER PARAMETERS				
T15	PHENOLS MG/L	.01	<.002	.006	.005
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE UG/L	<100.0	NT	<100.0	NT
V3	BENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM UG/L	<10.0	2.8***	<10.0	4.2***
V12	BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE * UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V25	TETRACHLOROETHYLENE ** UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE UG/L	12.0	<1.0	<10.0	3.5
V27	TRANS-1,2-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	1.5
V31	TRICHLOROFLUOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000699

	CR-10-27 10/31/83	CR-10-27 04/27/84	CR-11-16 11/01/83	CR-11-16 05/02/84
	N313695 /N313700	N406790 /N406795	N313830 /N313834	N406971 /N406976
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B2 ACENAPHTHYLENE UG/L	<10.0	<10.0	<10.0	<10.0
B3 ANTHRACENE UG/L	<10.0	<10.0	<10.0	<10.0
B4 BENZIDINE UG/L	<10.0	<10.0	<10.0	<10.0
B5 BENZO (A) ANTHRACENE UG/L	<10.0	<10.0	<10.0	<10.0
B6 BENZO (A) PYRENE UG/L	<10.0	<10.0	<10.0	<10.0
B7 3,4-BENZOFLUORANTHENE UG/L	<10.0	NT	<10.0	NT
B8 BENZO (GHI) PERYLENE UG/L	<25.0	<25.0	<25.0	<25.0
B9 BENZO (K) FLUORANTHENE UG/L	<10.0	<10.0	<10.0	<10.0
B10 BIS (2-CHLOROETHOXY) METHANE UG/L	<10.0	<10.0	<10.0	<10.0
B11 BIS (2-CHLOROETHYL) ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B12 BIS(2-CHLOROISOPROPYL) ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B13 BIS (2-ETHYLHEXYL) PHTHALATE UG/L	<10.0	<10.0	<10.0	20.0
B14 4-BROMOPHENYL PHENYL ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B15 BUTYL BENZYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B16 2-CHORONAPHTHALENE UG/L	<10.0	<10.0	<10.0	<10.0
B17 4-CHOROPHENYL PHENYL ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B18 CHRYSENE UG/L	<10.0	<10.0	<10.0	<10.0
B19 DIBENZO (A,H) ANTHRACENE UG/L	<25.0	<25.0	<25.0	<25.0
B20 1,2-DICHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<10.0
		<10.0		<1.0
B21 1,3-DICHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<10.0
		<10.0		<1.0
B22 1,4-DICHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<10.0
		<10.0		<1.0
B23 3,3'-DICHLOROBENZIDINE UG/L	<10.0	<10.0	<10.0	<10.0
B24 DIETHYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B25 DIMETHYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B26 DI-N-BUTYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B27 2,4-DINITROTOLUENE UG/L	<10.0	<10.0	<10.0	<10.0
B28 2,6-DINITROTOLUENE UG/L	<10.0	<10.0	<10.0	<10.0
B29 DI-N-OCTYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B30 1,2-DIPHENYLHYDRAZINE UG/L	<10.0	<10.0	<10.0	<10.0
B31 FLUORANTHENE UG/L	<10.0	<10.0	<10.0	<10.0
B32 FLUORENE UG/L	<10.0	<10.0	<10.0	<10.0
B33 HEXACHLOROBENZENE UG/L	<10.0	<10.0	<10.0	<10.0
B34 HEXACHLOROBUTADIENE UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-10-27 10/31/83	CR-10-27 04/27/84	CR-11-16 11/01/83	CR-11-16 05/02/84
	N313695 /N313700	N406790 /N406795	N313830 /N313834	N406971 /N406976
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B35 HEXACHLOROCYCLOPENTADIENE UG/L	<10.0	<10.0	<10.0	<10.0
B36 HEXACHLOROETHANE UG/L	<10.0	<10.0	<10.0	<10.0
B37 INDENO (1,2,3-CD) PYRENE UG/L	<25.0	<25.0	<25.0	<25.0
B38 ISOPHORONE UG/L	<10.0	<10.0	<10.0	<10.0
B39 NAPHTHALENE UG/L	<10.0	<10.0	<10.0	<10.0
B40 NITROBENZENE UG/L	<10.0	<10.0	<10.0	<10.0
B41 N-NITROSODIMETHYLAMINE UG/L	<10.0	<10.0	<10.0	<10.0
B42 N-NITROSODI-N-PROPYLAMINE UG/L	<10.0	<10.0	<10.0	<10.0
B43 N-NITROSODIPHENYLAMINE UG/L	<10.0	<10.0	<10.0	<10.0
B44 PHENANTHRENE UG/L	<10.0	<10.0	<10.0	<10.0
B45 PYRENE UG/L	<10.0	<10.0	<10.0	<10.0
B46 1,2,4-TRICHLOROBENZENE UG/L	<10.0	<10.0	<10.0	<10.0
B47 BENZO(B) FLUORANTHENE UG/L	NT	<10.0	NT	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1 2-CHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A2 2,4-DICHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A3 2,4-DIMETHYLPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A4 4,6-DINITRO-O-CRESOL UG/L	<250.0	<250.0	<250.0	<250.0
A5 2,4-DINITROPHENOL UG/L	<250.0	<250.0	<250.0	<250.0
A6 2-NITROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A7 4-NITROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A8 P-CHLORO-M-CRESOL UG/L	<25.0	<25.0	<25.0	<25.0
A9 PENTACHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A10 PHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A11 2,4,6-TRICHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1 ALDRIN UG/L	<10.0	<10.0	<10.0	<10.0
P2 ALPHA-BHC UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

T02000

			CR-10-27 10/31/83	CR-10-27 04/27/84	CR-11-16 11/01/83	CR-11-16 05/02/84
			N313695 /N313700	N406790 /N406795	N313830 /N313834	N406971 /N406976
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	6.0
C55	GROSS B RADIOACTIVITY	PC I/L	21.0	24.0	15.0	20.0
C57	TOTAL RADIUM	PC I/L	11.4	2.0	2.0	4.0

000702

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-12-20 10/31/83	CR-12-20 05/02/84	CR-12-40 10/31/83	CR-12-40 05/02/84
			N313696 /N313701	N406973 /N406978	N313697 /N313702	N406972 /N406977
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	93.0	20.0	365.0	49.0
C2	TOTAL ORGANIC HALIDE	UG/L	38.0	59.0	57.0	107.0
C3	BOD	MG/L	52.0	9.0	55.0	12.0
C4	COD	MG/L	173.0	49.0	210.0	175.0
C5	SPECIFIC CONDUCTANCE	UMHOS	1180.0	1130.0	2200.0	2080.0
C6	PH	SU	7.6	7.6	7.1	7.2
C7	TEMPERATURE	DEG. C	16.0	12.2	12.0	13.4
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	14.0	19.0	112.0	117.0
C9	BORON	MG/L	.16	.1	.06	.2
C10	CHLORIDE	MG/L	136.0	125.4	138.0	139.4
C11	FLUORIDE	MG/L	.2	.21	.35	.28
C12	IRON	MG/L	.04	.29	4.69	.89
C14	NITRATE	MG/L	<.05	<.05	<.05	.07
C15	PHOSPHATE	MG/L	7.4	.03	.32	.12
C16	SULFATE	MG/L	122.0	40.9	140.0	89.4
C17	SODIUM	MG/L	196.0	194.0	273.0	270.0
C18	POTASSIUM	MG/L	7.51	6.36	19.8	9.71
C43	BARIUM (GF)	MG/L	.049	.019	.015	.133
C52	MANGANESE	MG/L	.18	.4	13.6	11.8
C60	SULFIDE AS S	MG/L	<1.0	3.0	NT	1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	<1.0	1.0	<1.0	2.0
C20	SURFACTANTS (MBAS)	MG/L	.879	.67	1.71	.79
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000128

			CR-12-20 10/31/83	CR-12-20 05/02/84	CR-12-40 10/31/83	CR-12-40 05/02/84
			N313696 /N313701	N406973 /N406978	N313697 /N313702	N406972 /N406977
			CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.01	.002	<.001	.007
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	<.1	<.1
			CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.002	.014	.001	.014
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.0005	.001	<.0005	.005
T5	CHROMIUM (GF)	MG/L	<.002	.004	.011	.006
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	.006	<.002	.003
T8	MERCURY	MG/L	.0003	.0012	.0005	.0016
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.03	.02	.17	.03
T14	CYANIDE	MG/L	.015	<.005	.01	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000704

		CR-12-20 10/31/83	CR-12-20 05/02/84	CR-12-40 10/31/83	CR-12-40 05/02/84
		N313696 /N313701	N406973 /N406978	N313697 /N313702	N406972 /N406977
	CATEGORY 4 - OTHER PARAMETERS				
T15	PHENOLS MG/L	<.026	.004	.052	<.01
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE UG/L	<100.0	NT	<100.0	NT
V3	BENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM UG/L	<10.0	<1.0	<10.0	1.0***
V12	BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE * UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPHOPYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE UG/L	<10.0	1.3	<10.0	2.6
V25	TETRACHLORETHYLENE ** UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE UG/L	<10.0	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE UG/L	<10.0	1.3	<10.0	2.3
V30	TRICHLOROETHYLENE UG/L	<10.0	1.5	<10.0	98.0
V31	TRICHLOROFLUOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPHOPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-12-20 10/31/83	CR-12-20 05/02/84	CR-12-40 10/31/83	CR-12-40 05/02/84
	N313696 /N313701	N406973 /N406978	N313697 /N313702	N406972 /N406977
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B2 ACENAPHTHYLENE	<10.0 UG/L	<10.0	<10.0	<10.0
B3 ANTHRACENE	<10.0 UG/L	<10.0	<10.0	<10.0
B4 BENZIDINE	<10.0 UG/L	<10.0	<10.0	<10.0
B5 BENZO (A) ANTHRACENE	<10.0 UG/L	<10.0	<10.0	<10.0
B6 BENZO (A) PYRENE	<10.0 UG/L	<10.0	<10.0	<10.0
B7 3,4-BENZOFLUORANTHENE	<10.0 UG/L	NT	<10.0	NT
B8 BENZO (GHI) PERYLENE	<25.0 UG/L	<25.0	<25.0	<25.0
B9 BENZO (K) FLUORANTHENE	<10.0 UG/L	<10.0	<10.0	<10.0
B10 BIS (2-CHLOROETHOXY) METHANE	<10.0 UG/L	<10.0	<10.0	<10.0
B11 BIS (2-CHLOROETHYL) ETHER	<10.0 UG/L	<10.0	<10.0	<10.0
B12 BIS(2-CHLOROISOPROPYL) ETHER	<10.0 UG/L	<10.0	<10.0	<10.0
B13 BIS (2-ETHYLHEXYL) PHTHALATE	<10.0 UG/L	30.0	<10.0	130.0
B14 4-BROMOPHENYL PHENYL ETHER	<10.0 UG/L	<10.0	<10.0	<10.0
B15 BUTYL BENZYL PHTHALATE	<10.0 UG/L	<10.0	<10.0	<10.0
B16 2-CHORONAPHTHALENE	<10.0 UG/L	<10.0	<10.0	<10.0
B17 4-CHOROPHENYL PHENYL ETHER	<10.0 UG/L	<10.0	<10.0	<10.0
B18 CHRYSENE	<10.0 UG/L	<10.0	<10.0	<10.0
B19 DIBENZO (A,H) ANTHRACENE	<25.0 UG/L	<25.0	<25.0	<25.0
B20 1,2-DICHLOROBENZENE	<10.0 UG/L	<10.0 <1.0	10.0	<1.0 <10.0
B21 1,3-DICHLOROBENZENE	<10.0 UG/L	<10.0 <1.0	<10.0	<1.0 <10.0
B22 1,4-DICHLOROBENZENE	<10.0 UG/L	<10.0 <1.0	<10.0	<1.0 <10.0
B23 3,3'-DICHLOROBENZIDINE	<10.0 UG/L	<10.0	<10.0	<10.0
B24 DIETHYL PHTHALATE	<10.0 UG/L	<10.0	<10.0	<10.0
B25 DIMETHYL PHTHALATE	<10.0 UG/L	<10.0	<10.0	<10.0
B26 DI-N-BUTYL PHTHALATE	<10.0 UG/L	<10.0	<10.0	<10.0
B27 2,4-DINITROTOLUENE	<10.0 UG/L	<10.0	<10.0	<10.0
B28 2,6-DINITROTOLUENE	<10.0 UG/L	<10.0	<10.0	<10.0
B29 DI-N-OCTYL PHTHALATE	<10.0 UG/L	<10.0	<10.0	<10.0
B30 1,2-DIPHENYLHYDRAZINE	<10.0 UG/L	<10.0	<10.0	<10.0
B31 FLUORANTHENE	<10.0 UG/L	<10.0	<10.0	<10.0
B32 FLUORENE	<10.0 UG/L	<10.0	<10.0	<10.0
B33 HEXACHLOROBENZENE	<10.0 UG/L	<10.0	<10.0	<10.0
B34 HEXACHLOROBUTADIENE	<10.0 UG/L	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

904000

			CR-12-20 10/31/83	CR-12-20 05/02/84	CR-12-40 10/31/83	CR-12-40 05/02/84
			N313696 /N313701	N406973 /N406978	N313697 /N313702	N406972 /N406977
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS						
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS						
A1	2-CHLOROPHENOL	UG/L	60.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	240.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	70.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	56.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	22.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS						
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

NT=NOT TESTED AS PART OF THIS STUDY

000201

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-12-20 10/31/83	CR-12-20 05/02/84	CR-12-40 10/31/83	CR-12-40 05/02/84
			N313696 /N313701	N406973 /N406978	N313697 /N313702	N406972 /N406977
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	6.0	5.0	41.0	9.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

802000

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-13-18 11/01/83	CR-13-18 05/02/84	CR-13-32 11/01/83	CR-13-32 05/02/84
			N313832 /N313836	N406975 /N406980	N313831 /N313835	N406974 /N406979
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	13.0	14.0	12.0	23.0
C2	TOTAL ORGANIC HALIDE	UG/L	72.0	35.0	39.0	38.0
C3	BOD	MG/L	180.0	4.0	8.0	34.0
C4	COD	MG/L	56.0	34.0	25.0	53.0
C5	SPECIFIC CONDUCTANCE	UMHOS	440.0	372.0	810.0	567.0
C6	PH	SU	6.5	6.7	6.9	7.0
C7	TEMPERATURE	DEG. C	13.0	10.0	13.0	11.7
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	2.33	2.3	8.5	6.5
C9	BORON	MG/L	.1	<.1	.17	.1
C10	CHLORIDE	MG/L	50.3	37.4	75.8	61.8
C11	FLUORIDE	MG/L	.26	.14	.26	.18
C12	IRON	MG/L	17.7	16.6	.05	.54
C14	NITRATE	MG/L	<.05	<.05	.12	<.05
C15	PHOSPHATE	MG/L	.46	.82	.04	.08
C16	SULFATE	MG/L	14.38	28.7	39.28	30.5
C17	SODIUM	MG/L	84.5	71.7	150.0	109.0
C18	POTASSIUM	MG/L	2.87	1.1	4.54	1.92
C43	BARIUM (GF)	MG/L	.044	.029	.062	.034
C52	MANGANESE	MG/L	3.2	4.17	5.0	3.33
C60	SULFIDE AS S	MG/L	<1.0	1.0	<1.0	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	<1.0	1.0	<1.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	.042	.13	.324	.12
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

000709

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-13-18 11/01/83	CR-13-18 05/02/84	CR-13-32 11/01/83	CR-13-32 05/02/84
			N313832 /N313836	N406975 /N406980	N313831 /N313835	N406974 /N406979
			CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
			CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.007	.015	.003	.01
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0005	<.0005	.0008	.001
T5	CHROMIUM (GF)	MG/L	.011	.004	<.002	.006
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	.006	<.002	.008
T8	MERCURY	MG/L	.0003	.0002	.0013	.0012
T9	NICKEL	MG/L	<.1.	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.12	.07	.13	.01
T14	CYANIDE	MG/L	.005	<.005	.008	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000720

			CR-13-18 11/01/83	CR-13-18 05/02/84	CR-13-32 11/01/83	CR-13-32 05/02/84
			N313832 /N313836	N406975 /N406980	N313831 /N313835	N406974 /N406979
	CATEGORY 4 - OTHER PARAMETERS					
T15	PHENOLS	MG/L	.004	.003	.01	.004
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V1	ACROLEIN	UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	<100.0	NT
V3	BENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	1.6
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	2.0	<10.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L	<10.0	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

000211

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-13-18 11/01/83	CR-13-18 05/02/84	CR-13-32 11/01/83	CR-13-32 05/02/84
	N313832 /N313836	N406975 /N406980	N313831 /N313835	N406974 /N406979

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	65.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<10.0	<1.0 <10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<10.0	<1.0 <10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<10.0	<1.0 <10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

000712

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITURING WELL

OCT 26, 1984

	CR-13-18 11/01/83	CR-13-18 05/02/84	CR-13-32 11/01/83	CR-13-32 05/02/84
	N313832 /N313836	N406975 /N406980	N313831 /N313835	N406974 /N406979
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B35 HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36 HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37 INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38 ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39 NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40 NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41 N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42 N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43 N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44 PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45 PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46 1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47 BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1 2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2 2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3 2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4 4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5 2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6 2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7 4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8 P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9 PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10 PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11 2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1 ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2 ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000713

	CR-13-18 11/01/83	CR-13-18 05/02/84	CR-13-32 11/01/83	CR-13-32 05/02/84
	N313832 /N313836	N406975 /N406980	N313831 /N313835	N406974 /N406979

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	5.0	<3.0	4.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000714

			CR-14-23 11/02/83	CR-14-23 05/03/84	CR-15-13 11/02/83	CR-15-13 05/03/84
			N313920 /N313925	N407058 /N407062	N313921 /N313926	N407059 /N407063
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	185.0	9.0	169.0	1.0
C2	TOTAL ORGANIC HALIDE	UG/L	57.0	<20.0	37.0	<20.0
C3	BOD	MG/L	345.0	7.0	54.0	8.0
C4	COD	MG/L	22.0	32.0	52.0	12.0
C5	SPECIFIC CONDUCTANCE	UMHOS	280.0	233.0	364.0	300.0
C6	PH	SU	6.5	6.3	6.1	5.9
C7	TEMPERATURE	DEG. C	14.0	10.5	15.0	10.0
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	6.9	6.5	.07	.08
C9	BORON	MG/L	.04	<.1	.08	<.1
C10	CHLORIDE	MG/L	15.2	10.8	39.7	32.3
C11	FLUORIDE	MG/L	.084	<.1	.054	<.1
C12	IRON	MG/L	7.61	4.63	11.6	7.36
C14	NITRATE	MG/L	.53	.19	1.42	<.25
C15	PHOSPHATE	MG/L	.12	.17	.19	.04
C16	SULFATE	MG/L	24.22	20.0	67.1	36.6
C17	SODIUM	MG/L	33.5	22.5	44.6	38.9
C18	POTASSIUM	MG/L	3.16	1.74	3.3	1.6
C43	BARIUM (GF)	MG/L	.127	.025	.044	.028
C52	MANGANESE	MG/L	1.92	2.19	3.07	2.49
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	<1.0	2.0	<1.0	2.0
C20	SURFACTANTS (MBAS)	MG/L	.088	.12	.042	.08
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000715

	CR-14-23 11/02/83	CR-14-23 05/03/84	CR-15-13 11/02/83	CR-15-13 05/03/84
	N313920 /N313925	N407058 /N407062	N313921 /N313926	N407059 /N407063
CATEGORY 5 PARAMETERS				
C24 ISOPROPYL ALCOHOL MG/L	<.1	<.1	<.1	<.1
C25 ETHANOL MG/L	<.1	<.1	<.1	<.1
C26 BUTYL METHACRYLATE MG/L	<10.0	<10.0	<10.0	<10.0
C27 METHYL METHACRYLATE MG/L	<.1	<.1	<.1	<.1
C28 ETHYL ACRYLATE MG/L	<.1	<.1	<.1	<.1
C29 BUTYL ACRYLATE MG/L	<.1	<.1	<.1	<.1
C30 STYRENE MG/L	<.1	<.1	<.1	<.1
C31 ACETONE MG/L	<.1	<.1	<.1	<.1
C32 ETHYL ACETATE MG/L	<.1	<.1	<.1	<.1
C33 CELLOSOLVE ACETATE MG/L	<.1	<.1	<.1	<.1
C34 BUTYL CELLOSOLVE MG/L	<.1	<.1	<.1	<.1
C35 DITHANE MG/L	<.02	<.02	<.02	<.02
C36 LETHANE MG/L	<.001	<.001	<.001	<.001
C37 KARATHANE MG/L	<.01	<.01	<.01	<.01
C38 DNCP MG/L	<.01	<.01	<.01	<.01
C69 TOTAL XYLENES UG/L	NT	<1.0	NT	<1.0
C111 TOLUENE MG/L	NT	<.1	NT	<.1
CATEGORY 4 - OTHER PARAMETERS				
T1 ANTIMONY MG/L	<.15	<.15	<.15	<.15
T2 ARSENIC (GF) MG/L	.004	.011	.004	.013
T3 BERYLLIUM MG/L	<.01	<.01	<.01	<.01
T4 CADMIUM (GF) MG/L	<.0005	<.0005	<.0005	<.0005
T5 CHROMIUM (GF) MG/L	.01	.003	.01	.003
T6 COPPER MG/L	<.03	<.03	<.03	<.03
T7 LEAD (GF) MG/L	<.002	.002	<.002	.002
T8 MERCURY MG/L	.0005	.0022	.0002	.001
T9 NICKEL MG/L	<.1	<.1	.1	<.1
T10 SELENIUM MG/L	<.001	<.001	<.001	<.001
T11 SILVER MG/L	<.001	<.001	<.001	<.001
T12 THALLIUM MG/L	<.3	<.3	<.3	<.3
T13 ZINC MG/L	.65	.58	.4	.43
T14 CYANIDE MG/L	<.005	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000716

			CR-16-28 02/13/84	CR-16-28 05/03/84	CR-17-29 02/08/84	CR-17-29 05/04/84
			N402035 /N402038	N407060 /N407064	N401824 /N401827	N407151 /N407155
			/	/	/	N412047 /
			CATEGORY 1 PARAMETERS			
C1	TOTAL ORGANIC CARBON	MG/L	20.0	23.0	22.0	19.0
C2	TOTAL ONGANIC HALIDE	UG/L	NT	34.0	NT	37.0
C3	BOD	MG/L	6.0	14.0	11.0	<3.0
C4	COD	MG/L	73.0	67.0	49.0	40.0
C5	SPECIFIC CONDUCTANCE	UMHOS	1160.0	703.0	1340.0	1300.5
C6	PH	SU	7.6	7.3	6.8	6.7
C7	TEMPERATURE	DEG. C	8.9	10.0	14.4	12.8
C135	TOTAL COLIFORM PER 100 ML NO.		>2400.0	NT	1100.0	NT
			CATEGORY 2 PARAMETERS			
C8	NITROGEN, AMMONIA	MG/L	30.0	21.2	125.0	148.0
C9	BORON	MG/L	.34	.1	.04	.1
C10	CHLORIDE	MG/L	110.0	59.0	66.0	66.9
C11	FLUORIDE	MG/L	.13	.14	.21	.3
C12	IRON	MG/L	1.15	.75	4.31	1.56
C14	NITRATE	MG/L	<.09	<.05	1.87	1.57
C15	PHOSPHATE	MG/L	9.7	3.43	.049	.1
C16	SULFATE	MG/L	2.75	7.33	197.2	158.0
C17	SODIUM	MG/L	198.0	131.0	26.0	29.3
C18	POTASSIUM	MG/L	5.2	3.56	5.1	5.02
C43	BARIUM (GF)	MG/L	.146	.014	.024	.028
C52	MANGANESE	MG/L	.81	.4	5.65	4.67
C60	SULFIDE AS S	MG/L	1.0	3.0	1.2	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
			CATEGORY 3 PARAMETERS			
C19	OIL AND GREASE	MG/L	2.0	2.0	3.0	3.0
C20	SURFACTANTS (MBAS)	MG/L	.597	.46	.369	.51
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

000717

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-16-28 02/13/84	CR-16-28 05/03/84	CR-17-29 02/08/84	CR-17-29 05/04/84
	N402035 /N402038	N407060 /N407064	N401824 /N401827	N407151 /N407155
	/	/	/	N412047 /

CATEGORY 3 PARAMETERS

C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	.003	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1

CATEGORY 4 - OTHER PARAMETERS

T1	ANTIMONY	MG/L	.45	<.15	<.16	<.15
T2	ARSENIC (GF)	MG/L	<.001	.014	.005	.016
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.01	<.0005	<.01	.0006
T5	CHROMIUM (GF)	MG/L	<.02	.008	<.02	.006
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	.009	.009	.003	<.002
T8	MERCURY	MG/L	.0002	.0019	<.0002	.0017
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.02	<.001	<.02	<.001

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-14-23 11/02/83	CR-14-23 05/03/84	CR-15-13 11/02/83	CR-15-13 05/03/84
	N313920 /N313925	N407058 /N407062	N313921 /N313926	N407059 /N407063
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B35 HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36 HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37 INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38 ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39 NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40 NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41 N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42 N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43 N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44 PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45 PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46 1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47 BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1 2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2 2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3 2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4 4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5 2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6 2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7 4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8 P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9 PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10 PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11 2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1 ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2 ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-14-23 11/02/83	CR-14-23 05/03/84	CR-15-13 11/02/83	CR-15-13 05/03/84
	N313920 /N313925	N407058 /N407062	N313921 /N313926	N407059 /N407063

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	1.5	<1.0

0007120

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

	CR-14-23 11/02/83	CR-14-23 05/03/84	CR-15-13 11/02/83	CR-15-13 05/03/84
	N313920 /N313925	N407058 /N407062	N313921 /N313926	N407059 /N407063
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS	MG/L <.002	<.002	<.002	<.002
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1 ACROLEIN	UG/L <100.0	NT	<100.0	NT
V2 ACRYLONITRILE	UG/L <100.0	NT	<100.0	NT
V3 BENZENE	UG/L <10.0	<1.0	<10.0	<1.0
V4 BIS (CHLOROMETHYL) ETHER	UG/L <10.0	<4.0	<10.0	<4.0
V5 BROMOFORM	UG/L <10.0	<1.0	<10.0	<1.0
V6 CARBON TETRACHLORIDE	UG/L <10.0	<1.0	<10.0	<1.0
V7 CHLOROBENZENE	UG/L <10.0	<1.0	<10.0	<1.0
V9 CHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V10 2-CHLOROETHYLVINYL ETHER	UG/L <10.0	NT	<10.0	NT
V11 CHLOROFORM	UG/L <10.0	<1.0	<10.0	<1.0
V12 BROMODICHLOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V13 DICHLORODIFLUOROMETHANE	UG/L <10.0	NT	<10.0	NT
V14 1,1-DICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V15 1,2-DICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V16 1,1-DICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V17 1,2-DICHLOROPROPANE	UG/L <10.0	<1.0	<10.0	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE *	UG/L <10.0	<1.0	<10.0	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V20 ETHYLBENZENE	UG/L <10.0	<1.0	<10.0	<1.0
V21 BROMOMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V22 CHLOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V23 METHYLENE CHLORIDE	UG/L <10.0	1.2	<10.0	<1.0
V25 TETRACHLORETHYLENE **	UG/L <10.0	<1.0	<10.0	<1.0
V26 TOLUENE	UG/L <10.0	<1.0	<10.0	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V28 1,1,1-TRICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V30 TRICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V31 TRICHLOROFLUOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V32 VINYL CHLORIDE	UG/L <10.0	<1.0	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

000721

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-14-23 11/02/83	CR-14-23 05/03/84	CR-15-13 11/02/83	CR-15-13 05/03/84
	N313920 /N313925	N407058 /N407062	N313921 /N313926	N407059 /N407063

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	44.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<10.0	<1.0 <10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<10.0	<1.0 <10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0 <10.0	<10.0	<1.0 <10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

000722

	CR-16-28 02/13/84	CR-16-28 05/03/84	CR-17-29 02/08/84	CR-17-29 05/04/84
	N402035 /N402038	N407060 /N407064	N401824 /N401827	N407151 /N407155
	/	/	/	N412047 /

CATEGORY 4 - OTHER PARAMETERS

T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.08	.01	.034	.05
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	.015	.008	.003	.004

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V2	ACRYLONITRILE	UG/L	<.1	NT	NT	NT
V3	BENZENE	UG/L	<.1	<1.0	<.1	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	NT	<4.0	NT	<4.0
V5	BROMOFORM	UG/L	<.1	<1.0	<1.0	<1.0
						4.1
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	16.7	5.4	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V11	CHLOROFORM	UG/L	<1.0	<1.0	<1.0	4.1***
						<1.0
V12	BROMODICHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	4.4	1.1
						<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<.1	<1.0	2.0	<1.0
			<1.0			<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0	<1.0	<1.0
						2.5
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<1.0	<1.0	<.1	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
						1.3***
V25	TETRACHLOROETHYLENE **	UG/L	<1.0	<1.0	<1.0	<1.0
						3.3

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000723

			CR-16-28 02/13/84	CR-16-28 05/03/84	CR-17-29 02/08/84	CR-17-29 05/04/84
			N402035 /N402038	N407060 /N407064	N401824 /N401827	N407151 /N407155
			/	/	/	N412047 /
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V26	TOLUENE	UG/L	<1.0	<1.0	<.1	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0	51.2	<1.0
						7.5
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	3.7	8.0	1.4
						<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<1.0
				<1.0		<1.0
B21	1,3-DICHLOROBENZENE	UG/L	NT	<10.0	<10.0	<1.0
				<1.0		10.7

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

000724

			CR-16-28 02/13/84	CR-16-28 05/03/84	CR-17-29 02/08/84	CR-17-29 05/04/84
			N402035 /N402038	N407060 /N407064	N401824 /N401827	N407151 /N407155
			/	/	/	N412047 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B22	1,4-DICHLOROBENZENE	UG/L	<.1	<10.0	<10.0	<1.0
				<1.0		6.6
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000125

			CR-16-28 02/13/84	CR-16-28 05/03/84	CR-17-29 02/08/84	CR-17-29 05/04/84
			N402035 /N402038	N407060 /N407064	N401824 /N401827	N407151 /N407155
			/	/	/	N412047 /
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-16-28 02/13/84	CR-16-28 05/03/84	CR-17-29 02/08/84	CR-17-29 05/04/84
			N402035 /N402038	N407060 /N407064	N401824 /N401827	N407151 /N407155
			/	/	/	N412047 /
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	16.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	3.0	<3.0	22.0	10.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	3.0	<1.0

000126

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000727

	CR-18-55 02/08/84	CR-18-55 05/04/84		
N401823 /N401826	N407152 /N407156	/	/	
N402807 /	/	/	/	

CATEGORY 1 PARAMETERS

C1	TOTAL ORGANIC CARBON	MG/L	31.0	9.0
C2	TOTAL ORGANIC HALIDE	UG/L	NT	81.0
C3	BOD	MG/L	27.0	16.0
C4	COD	MG/L	41.0	20.0
C5	SPECIFIC CONDUCTANCE	UMHOS	160.0	154.2
C6	PH	SU	5.5	6.0
C7	TEMPERATURE	DEG. C	12.2	15.0
C135	TOTAL COLIFORM PER 100 ML NO.		460.0	NT

CATEGORY 2 PARAMETERS

C8	NITROGEN, AMMONIA	MG/L	<.05	<.05
C9	BORON	MG/L	.04	<.1
C10	CHLORIDE	MG/L	12.2	13.1
C11	FLUORIDE	MG/L	.06	<.1
C12	IRON	MG/L	.06	.11
C14	NITRATE	MG/L	2.95	2.76
C15	PHOSPHATE	MG/L	<.01	.02
C16	SULFATE	MG/L	41.3	23.3
C17	SODIUM	MG/L	9.87	8.17
C18	POTASSIUM	MG/L	2.17	2.13
C43	BARIUM (GF)	MG/L	.055	.112
C52	MANGANESE	MG/L	.52	.53
C60	SULFIDE AS S	MG/L	<1.0	<1.0
C61	TIN	MG/L	<1.0	<1.0

CATEGORY 3 PARAMETERS

C19	OIL AND GREASE	MG/L	4.0	3.0
C20	SURFACTANTS (MBAS)	MG/L	.016	.1
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000728

	CR-18-55 02/08/84	CR-18-55 05/04/84		
N401823 /N401826	N407152 /N407156	/	/	
N402807 /	/	/	/	

CATEGORY 3 PARAMETERS

C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01
C38	DNCP	MG/L	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	1.6
C111	TOLUENE	MG/L	NT	<.1

CATEGORY 4 - OTHER PARAMETERS

T1	ANTIMONY	MG/L	<.16	<.15
T2	ARSENIC (GF)	MG/L	.004	.014
T3	BERYLLIUM	MG/L	<.01	<.01
T4	CADMIUM (GF)	MG/L	.01	.0008
T5	CHROMIUM (GF)	MG/L	<.02	.004
T6	COPPER	MG/L	<.03	<.03
T7	LEAD (GF)	MG/L	.003	<.002
T8	MERCURY	MG/L	.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001
T11	SILVER	MG/L	<.02	<.001
T12	THALLIUM	MG/L	<.3	<.3
T13	ZINC	MG/L	.034	.05

NT-NOT TESTED AS PART OF THIS STUDY

000729

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-18-55 02/08/84	CR-18-55 05/04/84		
	N401823 /N401826	N407152 /N407156	/	/
	N402807 /	/	/	/

CATEGORY 4 - OTHER PARAMETERS

T14	CYANIDE	MG/L	<.005	<.005
T15	PHENOLS	MG/L	.01	.006

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V3	BENZENE	UG/L	<.1	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	NT	<4.0
V5	BROMOFORM	UG/L	<1.0	<1.0
			<.1	
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0
			<.1	
V7	CHLOROBENZENE	UG/L	<.1	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<1.0
			<.1	
V11	CHLOROFORM	UG/L	<1.0	<1.0
			2.4	
V12	BROMODICHLOROMETHANE	UG/L	NT	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0
			<.1	
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	4.9	<1.0
			<.1	
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0
			<.1	
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0
			<.1	
V20	ETHYLBENZENE	UG/L	<.1	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<1.0
			<.1	
V22	CHLOROMETHANE	UG/L	<1.0	<1.0
			<.1	
V23	METHYLENE CHLORIDE	UG/L	<1.0	<1.0
			5.3***	

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPHOPYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

		CR-18-55 02/08/84	CR-18-55 05/04/84	/	/
		N401823 /N401826	N407152 /N407156	/	/
		N402807 /	/	/	/
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V25	TETRACHLORETHYLENE **	UG/L	9.6 25.7	<1.0	
V26	TOLUENE	UG/L	<.1	<1.0	
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0	
V28	1,1,1-TRICHLOROETHANE	UG/L	25.4 11.0	2.4	
V30	TRICHLOROETHYLENE	UG/L	230.0 98.7	4.7	
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0 <.1	<1.0	
V32	VINYL CHLORIDE	UG/L	<1.0 <.1	<1.0	
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	
B3	ANTHRACENE	UG/L	<10.0	<10.0	
B4	BENZIDINE	UG/L	<10.0	<10.0	
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	10.0	
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	
B18	CHRYSENE	UG/L	<10.0	<10.0	
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	
B20	1,2-DICHLOROBENZENE	UG/L	<.2 <.1	<1.0 <10.0	

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

000731

	CR-18-55 02/08/84	CR-18-55 05/04/84		
N401823 /N401826	N407152 /N407156	/	/	
N402807 /	/	/	/	

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B21	1,3-DICHLOROBENZENE	UG/L	<.3	<1.0
			<.1	<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<.2	<1.0
			<.1	<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000132

	CR-18-55 02/08/84	CR-18-55 05/04/84	/	/
	N401823 /N401826	N407152 /N407156	/	/
	N402807 /	/	/	/

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P1	ALDRIN	UG/L	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000733

	CR-18-55 02/08/84	CR-18-55 05/04/84		
	N401823 /N401826	N407152 /N407156	/	/
	N402807 /	/	/	/

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P23	PCB-1260	UG/L	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000734

			CR-19-15 02/09/84	CR-19-15 05/04/84	CR-19-37 02/09/84	CR-19-37 05/04/84
			N401829 /N401831	N407154 /N407158	N401828 /N401830	N407153 /N407157
			N402809 /	N412048 /	N402808 /	/
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	10.0	30.0	4.0	1.0
C2	TOTAL ORGANIC HALIDE	UG/L	NT	33.0	NT	194.0
C3	BOD	MG/L	4.0	18.0	10.0	<3.0
C4	COD	MG/L	10.0	73.0	28.0	8.0
C5	SPECIFIC CONDUCTANCE	UMHOS	182.0	180.2	95.0	84.9
C6	PH	SU	6.7	5.7	7.0	6.7
C7	TEMPERATURE	DEG. C	13.3	10.0	12.2	12.8
C135	TOTAL COLIFORM PER 100 ML NO.		460.0	NT	240.0	NT
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05	<.05
C9	BORON	MG/L	.04	<.1	.02	<.1
C10	CHLORIDE	MG/L	15.0	18.7	13.0	12.6
C11	FLUORIDE	MG/L	.04	<.1	.05	<.1
C12	IRON	MG/L	.06	.18	.06	<.04
C14	NITRATE	MG/L	1.6	.83	1.96	2.25
C15	PHOSPHATE	MG/L	.013	.03	<.01	.02
C16	SULFATE	MG/L	43.0	32.5	.98	7.1
C17	SODIUM	MG/L	12.3	10.9	8.08	6.12
C18	POTASSIUM	MG/L	1.64	1.75	1.54	1.46
C43	BARIUM (GF)	MG/L	.087	.164	.014	.025
C52	MANGANESE	MG/L	<.02	.02	.2	<.02
C60	SULFIDE AS S	MG/L	1.1	<1.0	1.2	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	3.0	1.0	4.0	4.0
C20	SURFACTANTS (MBAS)	MG/L	.029	.04	.063	.06
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000735

		CR-19-15 02/09/84	CR-19-15 05/04/84	CR-19-37 02/09/84	CR-19-37 05/04/84
		N401829 /N401831	N407154 /N407158	N401828 /N401830	N407153 /N407157
		N402809 /	N412048 /	N402808 /	/
	CATEGORY 3 PARAMETERS				
C23	N-BUTYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
C25	ETHANOL	MG/L <.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L <10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L <.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L <.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L <.1	<.1	<.1	<.1
C30	STYRENE	MG/L <.1	<.1	<.1	<.1
C31	ACETONE	MG/L <.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L <.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L <.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L <.1	<.1	<.1	<.1
C35	DITHANE	MG/L <.02	<.02	<.02	<.02
C36	LETHANE	MG/L <.001	<.001	<.001	<.001
C37	KARATHANE	MG/L <.01	<.01	<.01	<.01
C38	DNCP	MG/L <.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L NT	<1.0	NT	7.1
C111	TOLUENE	MG/L NT	<.1	NT	<.1
	CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L .3	<.15	.3	<.15
T2	ARSENIC (GF)	MG/L .006	.003	.009	.004
T3	BERYLLIUM	MG/L <.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L <.01	.0006	<.01	.0009
T5	CHROMIUM (GF)	MG/L <.02	.004	<.02	.004
T6	COPPER	MG/L <.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L .005	<.002	.003	.007
T8	MERCURY	MG/L <.0002	.0015	<.0002	<.0002
T9	NICKEL	MG/L <.1	<.1	<.1	<.1
T10	SELENIUM	MG/L <.001	<.001	<.001	<.001
T11	SILVER	MG/L <.02	<.001	<.02	<.001
T12	THALLIUM	MG/L <.3	<.3	<.3	<.3
T13	ZINC	MG/L .15	.14	.024	.02

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000726

			CR-19-15 02/09/84	CR-19-15 05/04/84	CR-19-37 02/09/84	CR-19-37 05/04/84
			N401829 /N401831	N407154 /N407158	N401828 /N401830	N407153 /N407157
			N402809 /	N412048 /	N402808 /	/
	CATEGORY 4 - OTHER PARAMETERS					
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	.002	<.002	.006	<.002
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V3	BENZENE	UG/L	<.1	<1.0	<.1	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	NT	<4.0	NT	<4.0
V5	BROMOFORM	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V7	CHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V11	CHLOROFORM	UG/L	2.6	10.0***	<1.0	<1.0
			<.1	<1.0	.8	
V12	BROMODICHLOROMETHANE	UG/L	NT	<1.0	NT	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<1.0	22.6	<1.0
			<.1	2.3	10.7	
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V20	ETHYLBENZENE	UG/L	<.1	<1.0	<.1	2.6
V21	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V23	METHYLENE CHLORIDE	UG/L	1.6	1.1***	1.8	<1.0
			3.5***	1.1	4.4***	

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED

000737

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-19-15 02/09/84	CR-19-15 05/04/84	CR-19-37 02/09/84	CR-19-37 05/04/84
	N401829 /N401831	N407154 /N407158	N401828 /N401830	N407153 /N407157
	N402809 /	N412048 /	N402808 /	/

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V25	TETRACHLORETHYLENE **	UG/L	<1.0	193.0	3.7	<1.0
			2.3	<1.0	3.4	
V26	TOLUENE	UG/L	<.1	<1.0	<.1	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V28	1,1,1-TRICHLOROETHANE	UG/L	3.2	3.0	130.0	14.8
			2.1	26.6	75.8	
V30	TRICHLOROETHYLENE	UG/L	18.7	17.1	522.0	16.0
			10.8	79.1	281.0	
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
			<.1	<1.0	<.1	

CATEGORY 6 - BASE/NEUTRAL ORGANIC PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

000738

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-19-15 02/09/84	CR-19-15 05/04/84	CR-19-37 02/09/84	CR-19-37 05/04/84
	N401829 /N401831	N407154 /N407158	N401828 /N401830	N407153 /N407157
	N402809 /	N412048 /	N402808 /	/

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

820	1,2-DICHLOROBENZENE	UG/L	<.2	<10.0	<.2	<1.0
			<.1	<1.0	<.1	<10.0
821	1,3-DICHLOROBENZENE	UG/L	<.3	<10.0	<.3	<1.0
			<.1	<1.0	<.1	<10.0
822	1,4-DICHLOROBENZENE	UG/L	<.2	<10.0	<.2	<1.0
			<.1	<1.0	<.1	<10.0
823	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
824	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
825	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
826	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
827	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
828	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
829	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
830	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
831	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
832	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
833	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
834	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
835	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
836	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
837	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
838	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
839	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
840	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
841	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
842	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
843	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
844	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
845	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
846	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
847	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000739

			CR-19-15 02/09/84	CR-19-15 05/04/84	CR-19-37 02/09/84	CR-19-37 05/04/84
			N401829 /N401831	N407154 /N407158	N401828 /N401830	N407153 /N407157
			N402809 /	N412048 /	N402808 /	/
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			CR-19-15 02/09/84	CR-19-15 05/04/84	CR-19-37 02/09/84	CR-19-37 05/04/84
			N401829 /N401831	N407154 /N407158	N401828 /N401830	N407153 /N407157
			N402809 /	N412048 /	N402808 /	/
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

000140

000741

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-20-22 02/24/84	CR-20-22 05/07/84	CR-20-38 02/24/84	CR-20-38 05/07/84
	N402798 /N402811	N407231 /N407237	N402797 /N402810	N407230 /N407236
CATEGORY 1 PARAMETERS				
C1 TOTAL ORGANIC CARBON	MG/L	NT	48.0	NT	50.0
C2 TOTAL ORGANIC HALIDE	UG/L	NT	49.0	NT	369.0
C3 BOD	MG/L	NT	40.0	NT	32.0
C4 COD	MG/L	93.0	97.0	3660.0	110.0
C5 SPECIFIC CONDUCTANCE	UMHOS	175.0	151.0	2550.0	962.0
C6 PH	SU	5.8	6.2	6.7	6.8
C7 TEMPERATURE	DEG. C	NT	9.4	NT	12.2
CATEGORY 2 PARAMETERS				
C8 NITROGEN, AMMONIA	MG/L	2.15	1.26	262.0	95.0
C9 BORON	MG/L	NT	<.1	NT	.2
C10 CHLORIDE	MG/L	NT	9.8	NT	15.0
C11 FLUORIDE	MG/L	NT	<.1	NT	.3
C12 IRON	MG/L	NT	1.91	NT	44.3
C14 NITRATE	MG/L	NT	1.57	NT	<.25
C15 PHOSPHATE	MG/L	NT	.08	NT	.35
C16 SULFATE	MG/L	27.1	20.8	466.1	146.0
C17 SODIUM	MG/L	NT	4.76	NT	8.86
C18 POTASSIUM	MG/L	NT	.86	NT	5.69
C43 BARIUM (GF)	MG/L	NT	.062	NT	.084
C52 MANGANESE	MG/L	NT	.14	NT	3.5
C60 SULFIDE AS S	MG/L	NT	1.0	NT	1.0
C61 TIN	MG/L	NT	<1.0	NT	<1.0
CATEGORY 3 PARAMETERS				
C19 OIL AND GREASE	MG/L	NT	1.0	NT	2.0
C20 SURFACTANTS (MBAS)	MG/L	.1	.1	.26	.05
C21 METHYL ETHYL KETONE	MG/L	NT	<.1	NT	<.1
C22 ISOBUTYL ALCOHOL	MG/L	NT	<.1	NT	<.1
C23 N-BUTYL ALCOHOL	MG/L	NT	<.1	NT	<.1

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-20-22 02/24/84	CR-20-22 05/07/84	CR-20-38 02/24/84	CR-20-38 05/07/84
	N402798 /N402811	N407231 /N407237	N402797 /N402810	N407230 /N407236
CATEGORY 3 PARAMETERS				
C24 ISOPROPYL ALCOHOL MG/L	NT	<.1	NT	<.1
C25 ETHANOL MG/L	NT	<.1	NT	<.1
C26 BUTYL METHACRYLATE MG/L	NT	<10.0	NT	<10.0
C27 METHYL METHACRYLATE MG/L	NT	<.1	NT	<.1
C28 ETHYL ACRYLATE MG/L	NT	<.1	NT	<.1
C29 BUTYL ACRYLATE MG/L	NT	<.1	NT	<.1
C30 STYRENE MG/L	NT	<.1	NT	<.1
C31 ACETONE MG/L	NT	<.1	NT	<.1
C32 ETHYL ACETATE MG/L	NT	<.1	NT	<.1
C33 CELLOSOLVE ACETATE MG/L	NT	<.1	NT	<.1
C34 BUTYL CELLOSOLVE MG/L	NT	<.1	NT	<.1
C35 DITHANE MG/L	NT	<.02	NT	<.02
C36 LETHANE MG/L	NT	<.001	NT	<.001
C37 KARATHANE MG/L	NT	<.01	NT	<.01
C38 ONCP MG/L	NT	<.01	NT	<.01
C69 TOTAL XYLENES UG/L	NT	<1.0	NT	<1.0
C111 TOLUENE MG/L	NT	<.1	NT	<.1
CATEGORY 4 - OTHER PARAMETERS				
T1 ANTIMONY MG/L	NT	<.15	NT	<.15
T2 ARSENIC (GF) MG/L	NT	.004	NT	.007
T3 BERYLLIUM MG/L	NT	<.01	NT	<.01
T4 CADMIUM (GF) MG/L	NT	.0005	NT	<.0005
T5 CHROMIUM (GF) MG/L	NT	.003	NT	.003
T6 COPPER MG/L	NT	<.03	NT	<.03
T7 LEAD (GF) MG/L	NT	<.002	NT	<.002
T8 MERCURY MG/L	NT	.0018	NT	.0023
T9 NICKEL MG/L	NT	<.1	NT	<.1
T10 SELENIUM MG/L	NT	<.001	NT	<.001
T11 SILVER MG/L	NT	<.001	NT	<.001
T12 THALLIUM MG/L	NT	<.3	NT	<.3
T13 ZINC MG/L	NT	.02	NT	.01
T14 CYANIDE MG/L	NT	<.005	NT	<.005

NT-NOT TESTED AS PART OF THIS STUDY

000142

000743

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-20-22 02/24/84	CR-20-22 05/07/84	CR-20-38 02/24/84	CR-20-38 05/07/84
	N402798 /N402811	N407231 /N407237	N402797 /N402810	N407230 /N407236
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS MG/L	NT	<.002	NT	.06
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V3 BENZENE UG/L	<.1	<1.0	<.1	<1.0
V4 BIS (CHLOROMETHYL) ETHER UG/L	NT	<4.0	NT	<4.0
V5 BROMOFORM UG/L	<.1	<1.0	<.1	<1.0
V6 CARBON TETRACHLORIDE UG/L	<.1	<1.0	<.1	<1.0
V7 CHLOROBENZENE UG/L	<.1	<1.0	<1.0	<1.0
V9 CHLOROETHANE UG/L	<.1	<1.0	<.1	<1.0
V11 CHLOROFORM UG/L	<.1	<1.0	<.1 .1	<1.0
V12 BROMODICHLOROMETHANE UG/L	NT	<1.0	NT	<1.0
V14 1,1-DICHLOROETHANE UG/L	<.1	<1.0	5.7 <.1	1.1
V15 1,2-DICHLOROETHANE UG/L	<.1	<1.0	5.7	<1.0
V16 1,1-DICHLOROETHYLENE UG/L	<.1	<1.0	6.6	<1.0
V17 1,2-DICHLOROPROPANE UG/L	<.1	<1.0	<.1	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE * UG/L	<.1	<1.0	<.1	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE UG/L	<.1	<1.0	<.1	<1.0
V20 ETHYLBENZENE UG/L	<.1	<1.0	NT	<1.0
V21 BROMOMETHANE UG/L	<.1	<1.0	<.1	<1.0
V22 CHLOROMETHANE UG/L	<.1	<1.0	<.1	<1.0
V23 METHYLENE CHLORIDE UG/L	1.4***	<1.0	1.9***	<1.0
V25 TETRACHLOROETHYLENE ** UG/L	<.1	<1.0	.7	<1.0
V26 TOLUENE UG/L	<.1	<1.0	<.1	3.6
V27 TRANS-1,2-DICHLOROETHYLENE UG/L	.7	<1.0	<.1	<1.0
V28 1,1,1-TRICHLOROETHANE UG/L	2.2	<1.0	19.4	12.5
V30 TRICHLOROETHYLENE UG/L	8.3	1.7	315.0	31.8
V31 TRICHLOROFLUOROMETHANE UG/L	<.1	<1.0	<.1	<1.0
V32 VINYL CHLORIDE UG/L	<.1	<1.0	<.1	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-20-22 02/24/84	CR-20-22 05/07/84	CR-20-38 02/24/84	CR-20-38 05/07/84
	N402798 /N402811	N407231 /N407237	N402797 /N402810	N407230 /N407236

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	NT	<10.0	NT	<10.0
B3	ANTHRACENE	UG/L	NT	<10.0	NT	<10.0
B4	BENZIDINE	UG/L	NT	<10.0	NT	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	NT	<10.0	NT	<10.0
B6	BENZO (A) PYRENE	UG/L	NT	<10.0	NT	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	NT	<25.0	NT	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	NT	<10.0	NT	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	NT	<10.0	NT	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	NT	<10.0	NT	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	NT	10.0	NT	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	NT	<10.0	NT	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B16	2-CHORONAPHTHALENE	UG/L	NT	<10.0	NT	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	NT	<10.0	NT	<10.0
B18	CHRYSENE	UG/L	NT	<10.0	NT	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	NT	<25.0	NT	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<.1	<10.0	<.1	<1.0
				<1.0		<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<.1	<10.0	<.1	<1.0
				<1.0		<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<.1	<10.0	<.1	<1.0
				<1.0		<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	NT	<10.0	NT	<10.0
B24	DIETHYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B25	DIMETHYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B27	2,4-DINITROTOLUENE	UG/L	NT	<10.0	NT	<10.0
B28	2,6-DINITROTOLUENE	UG/L	NT	<10.0	NT	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	NT	<10.0	NT	<10.0
B31	FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
B32	FLUORENE	UG/L	NT	<10.0	NT	<10.0
B33	HEXACHLOROBENZENE	UG/L	NT	<10.0	NT	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	NT	<10.0	NT	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	NT	<10.0	NT	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

00744

000745

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-20-22	CR-20-22	CR-20-38	CR-20-38
	02/24/84	05/07/84	02/24/84	05/07/84
	N402798 /N402811	N407231 /N407237	N402797 /N402810	N407230 /N407236
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B36 HEXACHLOROETHANE	UG/L	NT	<10.0	NT	<10.0
B37 INDENO (1,2,3-CD) PYRENE	UG/L	NT	<25.0	NT	<25.0
B38 ISOPHORONE	UG/L	NT	<10.0	NT	<10.0
B39 NAPHTHALENE	UG/L	NT	<10.0	NT	<10.0
B40 NITROBENZENE	UG/L	NT	<10.0	NT	<10.0
B41 N-NITROSODIMETHYLAMINE	UG/L	NT	<10.0	NT	<10.0
B42 N-NITROSODI-N-PROPYLAMINE	UG/L	NT	<10.0	NT	<10.0
B43 N-NITROSODIPHENYLAMINE	UG/L	NT	<10.0	NT	<10.0
B44 PHENANTHRENE	UG/L	NT	<10.0	NT	<10.0
B45 PYRENE	UG/L	NT	<10.0	NT	<10.0
B46 1,2,4-TRICHLOROBENZENE	UG/L	NT	<10.0	NT	<10.0
B47 BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1 2-CHLOROPHENOL	UG/L	NT	<25.0	NT	<25.0
A2 2,4-DICHLOROPHENOL	UG/L	NT	<25.0	NT	<25.0
A3 2,4-DIMETHYLPHENOL	UG/L	NT	<25.0	NT	<25.0
A4 4,6-DINITRO-O-CRESOL	UG/L	NT	<250.0	NT	<250.0
A5 2,4-DINITROPHENOL	UG/L	NT	<250.0	NT	<250.0
A6 2-NITROPHENOL	UG/L	NT	<25.0	NT	<25.0
A7 4-NITROPHENOL	UG/L	NT	<25.0	NT	<25.0
A8 P-CHLORO-M-CRESOL	UG/L	NT	<25.0	NT	<25.0
A9 PENTACHLOROPHENOL	UG/L	NT	<25.0	NT	<25.0
A10 PHENOL	UG/L	NT	<25.0	NT	<25.0
A11 2,4,6-TRICHLOROPHENOL	UG/L	NT	<25.0	NT	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1 ALDRIN	UG/L	NT	<10.0	NT	<10.0
P2 ALPHA-BHC	UG/L	NT	<10.0	NT	<10.0
P3 BETA-BHC	UG/L	NT	<10.0	NT	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-20-22 02/24/84	CR-20-22 05/07/84	CR-20-38 02/24/84	CR-20-38 05/07/84
	N402798 /N402811	N407231 /N407237	N402797 /N402810	N407230 /N407236

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P4	GAMMA-BHC	UG/L	NT	<10.0	NT	<10.0
P5	DELTA-BHC	UG/L	NT	<10.0	NT	<10.0
P6	CHLORDANE	UG/L	NT	<10.0	NT	<10.0
P7	4,4'-DDT	UG/L	NT	<10.0	NT	<10.0
P8	4,4'-DDE	UG/L	NT	<10.0	NT	<10.0
P9	4,4'-DDD	UG/L	NT	<10.0	NT	<10.0
P10	DIELDRIN	UG/L	NT	<10.0	NT	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	NT	<10.0	NT	<10.0
P12	BETA-ENDOSULFAN	UG/L	NT	<10.0	NT	<10.0
P13	ENDOSULFAN SULFATE	UG/L	NT	<10.0	NT	<10.0
P14	ENDRIN	UG/L	NT	<10.0	NT	<10.0
P15	ENDRIN ALDEHYDE	UG/L	NT	<10.0	NT	<10.0
P16	HEPTACHLOR	UG/L	NT	<10.0	NT	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	NT	<10.0	NT	<10.0
P18	PCB-1242	UG/L	NT	<10.0	NT	<10.0
P19	PCB-1254	UG/L	NT	<10.0	NT	<10.0
P20	PCB-1221	UG/L	NT	<10.0	NT	<10.0
P21	PCB-1232	UG/L	NT	<10.0	NT	<10.0
P22	PCB-1248	UG/L	NT	<10.0	NT	<10.0
P23	PCB-1260	UG/L	NT	<10.0	NT	<10.0
P24	PCB-1016	UG/L	NT	<10.0	NT	<10.0
P25	TOXAPHENE	UG/L	NT	<10.0	NT	<10.0
P26	2,4-D	UG/L	NT	<1.0	NT	<1.0
P27	2,4,5-TP	UG/L	NT	<.5	NT	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	NT	<2.0	NT	6.0
C55	GROSS B RADIOACTIVITY	PC I/L	NT	<3.0	NT	6.0
C57	TOTAL RADIUM	PC I/L	NT	<1.0	NT	3.0

NT=NOT TESTED AS PART OF THIS STUDY

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200

000747

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-21-17 02/24/84	CR-21-17 05/07/84	CR-21-27 02/24/84	CR-21-27 05/07/84
	N402800 /N402813	N407233 /N407239	N402801 /N402814	N407234 /N407240
CATEGORY 1 PARAMETERS				
C1 TOTAL ORGANIC CARBON (MG/L)	NT	13.0	NT	11.0
C2 TOTAL ORGANIC HALIDE (UG/L)	NT	83.0	NT	216.0
C3 BOD (MG/L)	NT	25.0	NT	14.0
C4 COD (MG/L)	NT	29.0	3820.0	20.0
C5 SPECIFIC CONDUCTANCE (UMHOS)	385.0	323.0	107.0	130.0
C6 PH (SU)	5.4	6.7	6.0	6.7
C7 TEMPERATURE (DEG. C)	NT	10.6	NT	12.8
CATEGORY 2 PARAMETERS				
C8 NITROGEN, AMMONIA (MG/L)	<.05	<.05	<.05	.29
C9 BORON (MG/L)	NT	.1	NT	<.1
C10 CHLORIDE (MG/L)	NT	45.9	NT	14.0
C11 FLUORIDE (MG/L)	NT	<.1	NT	<.1
C12 IRON (MG/L)	NT	2.69	NT	17.8
C14 NITRATE (MG/L)	NT	.31	NT	<.25
C15 PHOSPHATE (MG/L)	NT	.05	NT	.11
C16 SULFATE (MG/L)	55.4	44.3	2.11	<1.0
C17 SODIUM (MG/L)	NT	30.7	NT	7.49
C18 POTASSIUM (MG/L)	NT	2.39	NT	2.3
C43 BARIUM (GF) (MG/L)	NT	.078	NT	.085
C52 MANGANESE (MG/L)	NT	6.0	NT	5.17
C60 SULFIDE AS S (MG/L)	NT	1.0	NT	1.0
C61 TIN (MG/L)	NT	<1.0	NT	<1.0
CATEGORY 3 PARAMETERS				
C19 OIL AND GREASE (MG/L)	NT	1.0	NT	<1.0
C20 SURFACTANTS (MBAS) (MG/L)	.06	.08	.05	.12
C21 METHYL ETHYL KETONE (MG/L)	NT	<.1	NT	<.1
C22 ISOBUTYL ALCOHOL (MG/L)	NT	<.1	NT	<.1
C23 N-BUTYL ALCOHOL (MG/L)	NT	<.1	NT	<.1

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

	CR-21-17 02/24/84	CR-21-17 05/07/84	CR-21-27 02/24/84	CR-21-27 05/07/84
	N402800 /N402813	N407233 /N407239	N402801 /N402814	N407234 /N407240

CATEGORY 3 PARAMETERS

C24	ISOPROPYL ALCOHOL	MG/L	NT	<.1	NT	<.1
C25	ETHANOL	MG/L	NT	<.1	NT	<.1
C26	BUTYL METHACRYLATE	MG/L	NT	<10.0	NT	<10.0
C27	METHYL METHACRYLATE	MG/L	NT	<.1	NT	<.1
C28	ETHYL ACRYLATE	MG/L	NT	<.1	NT	<.1
C29	BUTYL ACRYLATE	MG/L	NT	<.1	NT	<.1
C30	STYRENE	MG/L	NT	<.1	NT	<.1
C31	ACETONE	MG/L	NT	<.1	NT	<.1
C32	ETHYL ACETATE	MG/L	NT	<.1	NT	<.1
C33	CELLOSOLVE ACETATE	MG/L	NT	<.1	NT	<.1
C34	BUTYL CELLOSOLVE	MG/L	NT	<.1	NT	<.1
C35	DITHANE	MG/L	NT	<.02	NT	<.02
C36	LETHANE	MG/L	NT	<.001	NT	<.001
C37	KARATHANE	MG/L	NT	<.01	NT	<.01
C38	ONCP	MG/L	NT	<.01	NT	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1

CATEGORY 4 - OTHER PARAMETERS

T1	ANTIMONY	MG/L	NT	<.15	NT	<.15
T2	ARSENIC (GF)	MG/L	NT	.004	NT	.005
T3	BERYLLIUM	MG/L	NT	<.01	NT	<.01
T4	CADMIUM (GF)	MG/L	NT	<.0005	NT	<.0005
T5	CHROMIUM (GF)	MG/L	NT	.004	NT	.003
T6	COPPER	MG/L	NT	<.03	NT	<.03
T7	LEAD (GF)	MG/L	NT	<.002	NT	<.002
T8	MERCURY	MG/L	NT	.0014	NT	.0009
T9	NICKEL	MG/L	NT	<.1	NT	<.1
T10	SELENIUM	MG/L	NT	<.001	NT	<.001
T11	SILVER	MG/L	NT	<.001	NT	<.001
T12	THALLIUM	MG/L	NT	<.3	NT	<.3
T13	ZINC	MG/L	NT	.12	NT	.01
T14	CYANIDE	MG/L	NT	<.005	NT	<.005

NT-NOT TESTED AS PART OF THIS STUDY

000748

000749

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

	CR-21-17 02/24/84	CR-21-17 05/07/84	CR-21-27 02/24/84	CR-21-27 05/07/84
	N402800 /N402813	N407233 /N407239	N402801 /N402814	N407234 /N407240
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS	MG/L	NT	<.002	NT	<.002
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V3 BENZENE	UG/L	<.1	<1.0	<.1	<1.0
V4 BIS (CHLOROMETHYL) ETHER	UG/L	NT	<4.0	NT	<4.0
V5 BROMOFORM	UG/L	<.1	<1.0	<.1	<1.0
V6 CARBON TETRACHLORIDE	UG/L	<.1	<1.0	<.1	<1.0
V7 CHLOROBENZENE	UG/L	<.1	<1.0	<.1	<1.0
V9 CHLOROETHANE	UG/L	<.1	<1.0	<.1	<1.0
V11 CHLOROFORM	UG/L	2.7	<1.0	.5	<1.0
V12 BROMODICHLOROMETHANE	UG/L	NT	<1.0	NT	<1.0
V14 1,1-DICHLOROETHANE	UG/L	<.1	<1.0	2.3	<1.0
V15 1,2-DICHLOROETHANE	UG/L	<.1	<1.0	<.1	<1.0
V16 1,1-DICHLOROETHYLENE	UG/L	<.1	<1.0	5.3	<1.0
V17 1,2-DICHLOROPROPANE	UG/L	<.1	<1.0	<.1	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE *	UG/L	<.1	<1.0	<.1	2.4
V19 TRANS-1,3-DICHLOROPROPYLENE	UG/L	<.1	<1.0	<.1	<1.0
V20 ETHYLBENZENE	UG/L	<.1	<1.0	<.1	<1.0
V21 BROMOMETHANE	UG/L	<.1	<1.0	<.1	<1.0
V22 CHLOROMETHANE	UG/L	<.1	<1.0	<.1	<1.0
V23 METHYLENE CHLORIDE	UG/L	2.2***	<1.0	2.7***	<1.0
V25 TETRACHLOROETHYLENE **	UG/L	<.1	<1.0	1.8	3.3
V26 TOLUENE	UG/L	<.1	<1.0	<.1	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE	UG/L	<.1	<1.0	<.1	3.8
V28 1,1,1-TRICHLOROETHANE	UG/L	<.1	<1.0	40.7	8.7
V30 TRICHLOROETHYLENE	UG/L	8.2	1.3	202.0	22.5
V31 TRICHLOROFLUOROMETHANE	UG/L	<.1	<1.0	<.1	<1.0
V32 VINYL CHLORIDE	UG/L	<.1	<1.0	<.1	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-21-17 02/24/84	CR-21-17 05/07/84	CR-21-27 02/24/84	CR-21-27 05/07/84
	N402800 /N402813	N407233 /N407239	N402801 /N402814	N407234 /N407240

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	NT	<10.0	NT	<10.0
B3	ANTHRACENE	UG/L	NT	<10.0	NT	<10.0
B4	BENZIDINE	UG/L	NT	<10.0	NT	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	NT	<10.0	NT	<10.0
B6	BENZO (A) PYRENE	UG/L	NT	<10.0	NT	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	NT	<25.0	NT	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	NT	<10.0	NT	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	NT	<10.0	NT	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	NT	<10.0	NT	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	NT	15.0	NT	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	NT	<10.0	NT	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B16	2-CHORONAPHTHALENE	UG/L	NT	<10.0	NT	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	NT	<10.0	NT	<10.0
B18	CHRYSENE	UG/L	NT	<10.0	NT	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	NT	<25.0	NT	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<.1	<10.0	<.1	<1.0
				<1.0		<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<.1	<10.0	<.1	<1.0
				<1.0		<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<.1	<10.0	<.1	<1.0
				<1.0		<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	NT	<10.0	NT	<10.0
B24	DIETHYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B25	DIMETHYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B27	2,4-DINITROTOLUENE	UG/L	NT	<10.0	NT	<10.0
B28	2,6-DINITROTOLUENE	UG/L	NT	<10.0	NT	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	NT	<10.0	NT	<10.0
B31	FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
B32	FLUORENE	UG/L	NT	<10.0	NT	<10.0
B33	HEXACHLOROBENZENE	UG/L	NT	<10.0	NT	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	NT	<10.0	NT	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	NT	<10.0	NT	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

000750

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-21-17 02/24/84	CR-21-17 05/07/84	CR-21-27 02/24/84	CR-21-27 05/07/84
	N402800 /N402813	N407233 /N407239	N402801 /N402814	N407234 /N407240
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B36 HEXACHLOROETHANE	UG/L NT	<10.0	NT	<10.0
B37 INDENO (1,2,3-CD) PYRENE	UG/L NT	<25.0	NT	<25.0
B38 ISOPHORONE	UG/L NT	<10.0	NT	<10.0
B39 NAPHTHALENE	UG/L NT	<10.0	NT	<10.0
B40 NITROBENZENE	UG/L NT	<10.0	NT	<10.0
B41 N-NITROSODIMETHYLAMINE	UG/L NT	<10.0	NT	<10.0
B42 N-NITROSODI-N-PROPYLAMINE	UG/L NT	<10.0	NT	<10.0
B43 N-NITROSODIPHENYLAMINE	UG/L NT	<10.0	NT	<10.0
B44 PHENANTHRENE	UG/L NT	<10.0	NT	<10.0
B45 PYRENE	UG/L NT	<10.0	NT	<10.0
B46 1,2,4-TRICHLOROBENZENE	UG/L NT	<10.0	NT	<10.0
B47 BENZO(B) FLUORANTHENE	UG/L NT	<10.0	NT	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1 2-CHLOROPHENOL	UG/L NT	<25.0	NT	<25.0
A2 2,4-DICHLOROPHENOL	UG/L NT	<25.0	NT	<25.0
A3 2,4-DIMETHYLPHENOL	UG/L NT	<25.0	NT	<25.0
A4 4,6-DINITRO-O-CRESOL	UG/L NT	<250.0	NT	<250.0
A5 2,4-DINITROPHENOL	UG/L NT	<250.0	NT	<250.0
A6 2-NITROPHENOL	UG/L NT	<25.0	NT	<25.0
A7 4-NITROPHENOL	UG/L NT	<25.0	NT	<25.0
A8 P-CHLORO-M-CRESOL	UG/L NT	<25.0	NT	<25.0
A9 PENTACHLOROPHENOL	UG/L NT	<25.0	NT	<25.0
A10 PHENOL	UG/L NT	<25.0	NT	<25.0
A11 2,4,6-TRICHLOROPHENOL	UG/L NT	<25.0	NT	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P26 2,4-D	UG/L NT	<1.0	NT	<1.0
P27 2,4,5-TP	UG/L NT	<.5	NT	<.5

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-21-17 02/24/84	CR-21-17 05/07/84	CR-21-27 02/24/84	CR-21-27 05/07/84
	N402800 /N402813	N407233 /N407239	N402801 /N402814	N407234 /N407240
CATEGORY 5 PARAMETERS				
C55 GROSS B RADIOACTIVITY PC I/L	NT	5.0	NT	9.0
C57 TOTAL RADIUM PC I/L	NT	<1.0	NT	2.0

NT-NOT TESTED AS PART OF THIS STUDY

DOC 752000

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

0007153

			CR-21-38 02/24/84	CR-21-38 05/07/84	CR-22-18 02/24/84	CR-22-18 05/07/84
			N402799 /N402812	N407232 /N407238	N402802 /N402815	N407235 /N407241
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	NT	18.0	NT	59.0
C2	TOTAL ORGANIC HALIDE	UG/L	NT	254.0	NT	38.0
C3	BOD	MG/L	NT	47.0	NT	7.0
C4	COD	MG/L	NT	36.0	230.0	120.0
C5	SPECIFIC CONDUCTANCE	UMHOS	230.0	131.0	935.0	643.0
C6	PH	SU	5.6	6.3	6.0	6.5
C7	TEMPERATURE	DEG. C	NT	12.8	NT	11.7
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05	<.05
C9	BORON	MG/L	NT	<.1	NT	.1
C10	CHLORIDE	MG/L	NT	15.9	NT	121.7
C11	FLUORIDE	MG/L	NT	<.1	NT	<.1
C12	IRON	MG/L	NT	5.16	NT	16.2
C14	NITRATE	MG/L	NT	2.65	NT	<.25
C15	PHOSPHATE	MG/L	NT	.05	NT	.1
C16	SULFATE	MG/L	28.0	3.1	51.3	49.2
C17	SODIUM	MG/L	NT	9.54	NT	67.6
C18	POTASSIUM	MG/L	NT	1.29	NT	1.03
C43	BARIUM (GF)	MG/L	NT	.101	NT	.077
C52	MANGANESE	MG/L	NT	3.67	NT	1.08
C60	SULFIDE AS S	MG/L	NT	<1.0	NT	<1.0
C61	TIN	MG/L	NT	<1.0	NT	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	NT	1.0	NT	1.0
C20	SURFACTANTS (MBAS)	MG/L	.025	.08	.18	.05
C21	METHYL ETHYL KETONE	MG/L	NT	<.1	NT	<.1
C22	ISOBUTYL ALCOHOL	MG/L	NT	<.1	NT	<.1
C23	N-BUTYL ALCOHOL	MG/L	NT	<.1	NT	<.1

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-21-38 02/24/84	CR-21-38 05/07/84	CR-22-18 02/24/84	CR-22-18 05/07/84
	N402799 /N402812	N407232 /N407238	N402802 /N402815	N407235 /N407241
CATEGORY 3 PARAMETERS				
C24 ISOPROPYL ALCOHOL MG/L	NT	<.1	NT	<.1
C25 ETHANOL MG/L	NT	<.1	NT	<.1
C26 BUTYL METHACRYLATE MG/L	NT	<10.0	NT	<10.0
C27 METHYL METHACRYLATE MG/L	NT	<.1	NT	<.1
C28 ETHYL ACRYLATE MG/L	NT	<.1	NT	<.1
C29 BUTYL ACRYLATE MG/L	NT	<.1	NT	<.1
C30 STYRENE MG/L	NT	<.1	NT	<.1
C31 ACETONE MG/L	NT	<.1	NT	<.1
C32 ETHYL ACETATE MG/L	NT	<.1	NT	<.1
C33 CELLOSOLVE ACETATE MG/L	NT	<.1	NT	<.1
C34 BUTYL CELLOSOLVE MG/L	NT	<.1	NT	<.1
C35 DITHANE MG/L	NT	<.02	NT	<.02
C36 LETHANE MG/L	NT	<.001	NT	<.001
C37 KARATHANE MG/L	NT	<.01	NT	<.01
C38 DNCP MG/L	NT	<.01	NT	<.01
C69 TOTAL XYLENES UG/L	NT	<1.0	NT	<1.0
C111 TOLUENE MG/L	NT	<.1	NT	<.1
CATEGORY 4 - OTHER PARAMETERS				
T1 ANTIMONY MG/L	NT	<.15	NT	<.15
T2 ARSENIC (GF) MG/L	NT	.004	NT	.004
T3 BERYLLIUM MG/L	NT	<.01	NT	<.01
T4 CADMIUM (GF) MG/L	NT	<.0005	NT	<.0005
T5 CHROMIUM (GF) MG/L	NT	.004	NT	.004
T6 COPPER MG/L	NT	<.03	NT	<.03
T7 LEAD (GF) MG/L	NT	.003	NT	<.002
T8 MERCURY MG/L	NT	.001	NT	.0021
T9 NICKEL MG/L	NT	<.1	NT	<.1
T10 SELENIUM MG/L	NT	<.001	NT	<.001
T11 SILVER MG/L	NT	<.001	NT	<.001
T12 THALLIUM MG/L	NT	<.3	NT	<.3
T13 ZINC MG/L	NT	.03	NT	.03
T14 CYANIDE MG/L	NT	<.005	NT	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

	CR-21-38 02/24/84	CR-21-38 05/07/84	CR-22-18 02/24/84	CR-22-18 05/07/84
	N402799 /N402812	N407232 /N407238	N402802 /N402815	N407235 /N407241
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS MG/L	NT	<.002	NT	<.002
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V3 BENZENE UG/L	<.1	<1.0	<.1	<1.0
V4 BIS (CHLOROMETHYL) ETHER UG/L	NT	<4.0	NT	<4.0
V5 BROMOFORM UG/L	<.1	<1.0	<.1	<1.0
V6 CARBON TETRACHLORIDE UG/L	<.1	<1.0	<.1	<1.0
V7 CHLOROBENZENE UG/L	<.1	<1.0	<.1	<1.0
V9 CHLOROETHANE UG/L	<.1	<1.0	<.1	<1.0
V11 CHLOROFORM UG/L	1.9	<1.0	2.1	<1.0
V12 BROMODICHLOROMETHANE UG/L	NT	<1.0	NT	<1.0
V14 1,1-DICHLOROETHANE UG/L	1.0	<1.0	<.1	<1.0
V15 1,2-DICHLOROETHANE UG/L	<.1	<1.0	<.1	<1.0
V16 1,1-DICHLOROETHYLENE UG/L	7.4	<1.0	<.1	<1.0
V17 1,2-DICHLOROPROPANE UG/L	<.1	<1.0	<.1	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE * UG/L	<.1	<1.0	<.1	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE UG/L	<.1	<1.0	<.1	<1.0
V20 ETHYLBENZENE UG/L	<.1	<1.0	<.1	<1.0
V21 BROMOMETHANE UG/L	<.1	<1.0	<.1	<1.0
V22 CHLOROMETHANE UG/L	<.1	<1.0	<.1	<1.0
V23 METHYLENE CHLORIDE UG/L	.9***	<1.0	.2***	<1.0
V25 TETRACHLOROETHYLENE ** UG/L	1.6	<1.0	<.1	<1.0
V26 TOLUENE UG/L	<.1	<1.0	<.1	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE UG/L	<.1	<1.0	<.1	<1.0
V28 1,1,1-TRICHLOROETHANE UG/L	28.0	9.4	5.1	<1.0
V30 TRICHLOROETHYLENE UG/L	240.0	19.7	69.2	<1.0
V31 TRICHLOROFLUOROMETHANE UG/L	<.1	<1.0	<.1	<1.0
V32 VINYL CHLORIDE UG/L	<.1	<1.0	<.1	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

	CR-21-38 02/24/84	CR-21-38 05/07/84	CR-22-18 02/24/84	CR-22-18 05/07/84
	N402799 /N402812	N407232 /N407238	N402802 /N402815	N407235 /N407241

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	NT	<10.0	NT	<10.0
B3	ANTHRACENE	UG/L	NT	<10.0	NT	<10.0
B4	BENZIDINE	UG/L	NT	<10.0	NT	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	NT	<10.0	NT	<10.0
B6	BENZO (A) PYRENE	UG/L	NT	<10.0	NT	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	NT	<25.0	NT	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	NT	<10.0	NT	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	NT	<10.0	NT	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	NT	<10.0	NT	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	NT	<10.0	NT	53.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	NT	<10.0	NT	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B16	2-CHORONAPHTHALENE	UG/L	NT	<10.0	NT	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	NT	<10.0	NT	<10.0
B18	CHRYSENE	UG/L	NT	<10.0	NT	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	NT	<25.0	NT	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<.1	<1.0 <10.0	<.1	<10.0 <1.0
B21	1,3-DICHLOROBENZENE	UG/L	<.1	<1.0 <10.0	<.1	<10.0 <1.0
B22	1,4-DICHLOROBENZENE	UG/L	<.1	<1.0 <10.0	<.1	<10.0 <1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	NT	<10.0	NT	<10.0
B24	DIETHYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B25	DIMETHYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B27	2,4-DINITROTOLUENE	UG/L	NT	<10.0	NT	<10.0
B28	2,6-DINITROTOLUENE	UG/L	NT	<10.0	NT	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	NT	<10.0	NT	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	NT	<10.0	NT	<10.0
B31	FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
B32	FLUORENE	UG/L	NT	<10.0	NT	<10.0
B33	HEXACHLOROBENZENE	UG/L	NT	<10.0	NT	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	NT	<10.0	NT	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	NT	<10.0	NT	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

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000757

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-21-38 02/24/84	CR-21-38 05/07/84	CR-22-18 02/24/84	CR-22-18 05/07/84
	N402799 /N402812	N407232 /N407238	N402802 /N402815	N407235 /N407241
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B36 HEXACHLOROETHANE UG/L	NT	<10.0	NT	<10.0
B37 INDENO (1,2,3-CD) PYRENE UG/L	NT	<25.0	NT	<25.0
B38 ISOPHORONE UG/L	NT	<10.0	NT	<10.0
B39 NAPHTHALENE UG/L	NT	<10.0	NT	<10.0
B40 NITROBENZENE UG/L	NT	<10.0	NT	<10.0
B41 N-NITROSODIMETHYLAMINE UG/L	NT	<10.0	NT	<10.0
B42 N-NITROSODI-N-PROPYLAMINE UG/L	NT	<10.0	NT	<10.0
B43 N-NITROSODIPHENYLAMINE UG/L	NT	<10.0	NT	<10.0
B44 PHENANTHRENE UG/L	NT	<10.0	NT	<10.0
B45 PYRENE UG/L	NT	<10.0	NT	<10.0
B46 1,2,4-TRICHLOROBENZENE UG/L	NT	<10.0	NT	<10.0
B47 BENZO(B) FLUORANTHENE UG/L	NT	<10.0	NT	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1 2-CHLOROPHENOL UG/L	NT	<25.0	NT	<25.0
A2 2,4-DICHLOROPHENOL UG/L	NT	<25.0	NT	<25.0
A3 2,4-DIMETHYLPHENOL UG/L	NT	<25.0	NT	<25.0
A4 4,6-DINITRO-O-CRESOL UG/L	NT	<250.0	NT	<250.0
A5 2,4-DINITROPHENOL UG/L	NT	<250.0	NT	<250.0
A6 2-NITROPHENOL UG/L	NT	<25.0	NT	<25.0
A7 4-NITROPHENOL UG/L	NT	<25.0	NT	<25.0
A8 P-CHLORO-M-CRESOL UG/L	NT	<25.0	NT	<25.0
A9 PENTACHLOROPHENOL UG/L	NT	<25.0	NT	<25.0
A10 PHENOL UG/L	NT	<25.0	NT	<25.0
A11 2,4,6-TRICHLOROPHENOL UG/L	NT	<25.0	NT	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1 ALDRIN UG/L	NT	<10.0	NT	<10.0
P2 ALPHA-BHC UG/L	NT	<10.0	NT	<10.0
P3 BETA-BHC UG/L	NT	<10.0	NT	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	CR-21-38 02/24/84	CR-21-38 05/07/84	CR-22-18 02/24/84	CR-22-18 05/07/84
	N402799 /N402812	N407232 /N407238	N402802 /N402815	N407235 /N407241
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P4 GAMMA-BHC	UG/L NT	<10.0	NT	<10.0
P5 DELTA-BHC	UG/L NT	<10.0	NT	<10.0
P6 CHLORDANE	UG/L NT	<10.0	NT	<10.0
P7 4,4'-DDT	UG/L NT	<10.0	NT	<10.0
P8 4,4'-DDE	UG/L NT	<10.0	NT	<10.0
P9 4,4'-DDD	UG/L NT	<10.0	NT	<10.0
P10 DIELDRIN	UG/L NT	<10.0	NT	<10.0
P11 ALPHA-ENDOSULFAN	UG/L NT	<10.0	NT	<10.0
P12 BETA-ENDOSULFAN	UG/L NT	<10.0	NT	<10.0
P13 ENDOSULFAN SULFATE	UG/L NT	<10.0	NT	<10.0
P14 ENDRIN	UG/L NT	<10.0	NT	<10.0
P15 ENDRIN ALDEHYDE	UG/L NT	<10.0	NT	<10.0
P16 HEPTACHLOR	UG/L NT	<10.0	NT	<10.0
P17 HEPTACHLOR EPOXIDE	UG/L NT	<10.0	NT	<10.0
P18 PCB-1242	UG/L NT	<10.0	NT	<10.0
P19 PCB-1254	UG/L NT	<10.0	NT	<10.0
P20 PCB-1221	UG/L NT	<10.0	NT	<10.0
P21 PCB-1232	UG/L NT	<10.0	NT	<10.0
P22 PCB-1248	UG/L NT	<10.0	NT	<10.0
P23 PCB-1260	UG/L NT	<10.0	NT	<10.0
P24 PCB-1016	UG/L NT	<10.0	NT	<10.0
P25 TOXAPHENE	UG/L NT	<10.0	NT	<10.0
P26 2,4-D	UG/L NT	<1.0	NT	<1.0
P27 2,4,5-TP	UG/L NT	<.5	NT	<.5
CATEGORY 5 PARAMETERS				
C53 GROSS A RADIOACTIVITY	PC I/L NT	<2.0	NT	4.0
C55 GROSS B RADIOACTIVITY	PC I/L NT	<3.0	NT	3.0
C57 TOTAL RADIUM	PC I/L NT	<1.0	NT	2.0

NT-NOT TESTED AS PART OF THIS STUDY

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BCM

APPENDIX F2

"LF" MONITORING WELL RESULTS

ROHM AND HAAS LANDFILL ...STOL, PENNSYLVANIA
MONITORING WELL

OCT 26, ... 4

		LF-14-20 10/26/83	LF-14-20 04/24/84
		N313480 /N313485	N406379 /N406385 / /
	CATEGORY 3 PARAMETERS		
C24	ISOPROPYL ALCOHOL	MG/L	<.1 <.1
C25	ETHANOL	MG/L	<.1 <.1
C26	BUTYL METHACRYLATE	MG/L	<10.0 <10.0
C27	METHYL METHACRYLATE	MG/L	<.1 <.1
C28	ETHYL ACRYLATE	MG/L	<.1 <.1
C29	BUTYL ACRYLATE	MG/L	<.1 <.1
C30	STYRENE	MG/L	<.1 <.1
C31	ACETONE	MG/L	<.1 <.1
C32	ETHYL ACETATE	MG/L	<.1 <.1
C33	CELLOSOLVE ACETATE	MG/L	<.1 <.1
C34	BUTYL CELLOSOLVE	MG/L	<.1 <.1
C35	DITHANE	MG/L	<.02 <.02
C36	LETHANE	MG/L	<.001 <.001
C37	KARATHANE	MG/L	<.01 <.01
C38	DNCP	MG/L	<.01 <.01
C69	TOTAL XYLENES	UG/L	NT <1.0
C111	TOLUENE	MG/L	NT <.1
	CATEGORY 4 - OTHER PARAMETERS		
T1	ANTIMONY	MG/L	<.15 <.15
T2	ARSENIC (GF)	MG/L	.004 .018
T3	BERYLLIUM	MG/L	<.01 <.01
T4	CADMIUM (GF)	MG/L	.0007 .003
T5	CHROMIUM, (GF)	MG/L	<.002 .003
T6	COPPER	MG/L	.05 <.03
T7	LEAD (GF)	MG/L	<.002 <.002
T8	MERCURY	MG/L	<.0002 <.0002
T9	NICKEL	MG/L	<.1 <.1
T10	SELENIUM	MG/L	<.001 <.001
T11	SILVER	MG/L	<.001 <.001
T12	THALLIUM	MG/L	<.3 <.3
T13	ZINC	MG/L	.07 .01
T14	CYANIDE	MG/L	<.005 <.005

NT-NOT TESTED AS PART OF THIS STUDY

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

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			LF-14-20 10/26/83	LF-14-20 04/24/84	/	/
			N313480 /N313485	N406379 /N406385		
	CATEGORY 4 - OTHER PARAMETERS					
T15	PHENOLS	MG/L	.002	<.002		
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V1	ACROLEIN	UG/L	<100.0	NT		
V2	ACRYLONITRILE	UG/L	<100.0	NT		
V3	BENZENE	UG/L	<10.0	<1.0		
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0		
V5	BROMOFORM	UG/L	<10.0	<1.0		
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0		
V7	CHLOROBENZENE	UG/L	<10.0	<1.0		
V9	CHLOROETHANE	UG/L	<10.0	<1.0		
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT		
V11	CHLOROFORM	UG/L	<10.0	<1.0		
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0		
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT		
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0		
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0		
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0		
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0		
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0		
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0		
V20	ETHYLBENZENE	UG/L	<10.0	<1.0		
V21	BROMOMETHANE	UG/L	<10.0	<1.0		
V22	CHLOROMETHANE	UG/L	<10.0	<1.0		
V23	METHYLENE CHLORIDE	UG/L	<10.0	<1.0		
V25	TETRACHLORETHYLENE **	UG/L	<10.0	218.0		
V26	TOLUENE	UG/L	<10.0	<1.0		
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0		
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0		
V30	TRICHLOROETHYLENE	UG/L	<10.0	1.0***		
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0		
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0		

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL ..ISTOL, PENNSYLVANIA OCT 26, . .4
MONITORING WELL

			LF-13-18 10/26/83	LF-13-18 04/24/84	LF-13-43 02/07/84	LF-13-43 04/24/84
			N313479 /N313484	N406377 /N406383	N401698 /N401706	N406376 /N406382
			N402817 /	/	N402816 /	/

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<.1	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	6.0	<3.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

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			LF-14-20 10/26/83	LF-14-20 04/24/84	/	/
			N313480 /N313485	N406379 /N406385	/	/
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	9.0	20.0		
C2	TOTAL ORGANIC HALIDE	UG/L	22.0	<20.0		
C3	BOD	MG/L	<3.0	50.0		
C4	COD	MG/L	12.0	55.0		
C5	SPECIFIC CONDUCTANCE	UMHOS	177.0	94.0		
C6	PH	SU	5.9	6.4		
C7	TEMPERATURE	DEG. C	15.0	10.0		
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	<.05	<.05		
C9	BORON	MG/L	.04	.1		
C10	CHLORIDE	MG/L	7.35	1.4		
C11	FLUORIDE	MG/L	.06	.04		
C12	IRON	MG/L	<.04	<.04		
C14	NITRATE	MG/L	2.57	.23		
C15	PHOSPHATE	MG/L	.01	<.01		
C16	SULFATE	MG/L	30.5	24.4		
C17	SODIUM	MG/L	7.51	<.73		
C18	POTASSIUM	MG/L	2.58	.91		
C43	BARIUM (GF)	MG/L	.084	.031		
C52	MANGANESE	MG/L	.07	.22		
C60	SULFIDE AS S	MG/L	<1.0	1.0		
C61	TIN	MG/L	<1.0	<1.0		
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	<1.0	1.0		
C20	SURFACTANTS (MBAS)	MG/L	.7	.027		
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1		
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1		
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1		

ROHM AND HAAS LANDFILL .STOL, PENNSYLVANIA OCT 26, .4
MONITORING WELL

	LF-13-18 10/26/83	LF-13-18 04/24/84	LF-13-43 02/07/84	LF-13-43 04/24/84
	N313479 /N313484	N406377 /N406383	N401698 /N401706	N406376 /N406382
	N402817 /	/	N402816 /	/

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<.2	<10.0
			<.1	<1.0	<.1	<1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<.3	<10.0
			<.1	<1.0	<.1	<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<.2	<10.0
			<.1	<1.0	<.1	<1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0

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		LF-13-18 10/26/83	LF-13-18 04/24/84	LF-13-43 02/07/84	LF-13-43 04/24/84
		N313479 /N313484	N406377 /N406383	N401698 /N401706	N406376 /N406382
		N402817 /	/	N402816 /	/
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B47	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	<10.0	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL ,STOL, PENNSYLVANIA OCT 26, ,4
MONITORING WELL

	LF-13-18 10/26/83	LF-13-18 04/24/84	LF-13-43 02/07/84	LF-13-43 04/24/84
	N313479 /N313484	N406377 /N406383	N401698 /N401706	N406376 /N406382
	N402817 /	/	N402816 /	/

CATEGORY 4 - OTHER PARAMETERS

T15	PHENOLS	MG/L	.003	<.002	.004	<.002

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V1	ACROLEIN	UG/L	<100.0	NT	NT	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	NT	NT
V3	BENZENE	UG/L	<10.0	<1.0	<.1	<1.0
			<.1		<.1	
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	NT	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	NT	NT
V11	CHLOROFORM	UG/L	<10.0	<1.0	1.7	<1.0
			.1		.3	
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	NT	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
			.5		.5	
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	16.9	5.1
			1.1		4.3	
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<.1	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

007065

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000766

			LF-13-18 10/26/83	LF-13-18 04/24/84	LF-13-43 02/07/84	LF-13-43 04/24/84
			N313479 /N313484	N406377 /N406383	N401698 /N401706	N406376 /N406382
			N402817 /	/	N402816 /	/
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	
V23	METHYLENE CHLORIDE	UG/L	<10.0	<1.0	10.1	3.3***
			2.2***		2.1***	
V25	TETRACHLOROETHYLENE **	UG/L	<10.0	1.7	<1.0	1.2
			1.8		2.9	
V26	TOLUENE	UG/L	<10.0	<1.0	<.1	<1.0
			<.1		<.1	
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	12.0	<1.0	<1.0	<1.0
			5.5		<.1	
V28	1,1,1-TRICHLOROETHANE	UG/L	45.0	19.4	<1.0	37.1
			24.0		49.0	
V30	TRICHLOROETHYLENE	UG/L	230.0	107.0	341.0	145.0
			130.0		187.0	
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<1.0	<1.0
			<.1		<.1	
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	NT	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	10.0	24.0	<10.0	22.0

NT-NOT TESTED AS PART OF THIS STUDY

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL TOL, PENNSYLVANIA OCT 26,
MONITORING WELL

			LF-13-18 10/26/83	LF-13-18 04/24/84	LF-13-43 02/07/84	LF-13-43 04/24/84
			N313479 /N313484	N406377 /N406383	N401698 /N401706	N406376 /N406382
			N402817 /	/	N402816 /	/
			CATEGORY 1 PARAMETERS			
C1	TOTAL ORGANIC CARBON	MG/L	29.0	72.0	40.0	20.0
C2	TOTAL ORGANIC HALIDE	UG/L	119.0	135.0	NT	216.0
C3	BOD	MG/L	6.0	14.0	23.0	14.0
C4	COD	MG/L	154.0	145.0	40.0	36.0
C5	SPECIFIC CONDUCTANCE	UMHOS	228.0	142.0	99.0	101.0
C6	PH	SU	5.6	5.5	5.9	6.1
C7	TEMPERATURE	DEG. C	14.0	10.0	12.2	12.8
			CATEGORY 2 PARAMETERS			
C8	NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05	<.05
C9	BORON	MG/L	.09	<.1	.09	<.1
C10	CHLORIDE	MG/L	27.3	16.4	11.5	10.3
C11	FLUORIDE	MG/L	.04	.08	.03	.06
C12	IRON	MG/L	<.04	3.53	.91	4.42
C14	NITRATE	MG/L	3.41	2.11	1.79	1.65
C15	PHOSPHATE	MG/L	.09	<.01	.027	<.01
C16	SULFATE	MG/L	33.0	12.7	1.94	6.4
C17	SODIUM	MG/L	15.4	6.1	9.15	6.1
C18	POTASSIUM	MG/L	3.01	1.44	1.67	1.53
C43	BARIUM (GF)	MG/L	.119	.047	.024	.043
C52	MANGANESE	MG/L	.62	.69	.408	.73
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
			CATEGORY 3 PARAMETERS			
C19	OIL AND GREASE	MG/L	<1.0	1.0	2.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	.25	.043	.054	<.025
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

000767

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000768

			LF-13-18 10/26/83	LF-13-18 04/24/84	LF-13-43 02/07/84	LF-13-43 04/24/84
			N313479 /N313484	N406377 /N406383	N401698 /N401706	N406376 /N406382
			N402817 /	/	N402816 /	/
			CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
			CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.004	.016	<.001	.021
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0009	.003	<.01	.002
T5	CHROMIUM (GF)	MG/L	<.002	.003	<.02	.004
T6	COPPER	MG/L	.05	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	.006	.01	.017
T8	MERCURY	MG/L	<.0002	<.0002	<.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.02	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.11	.03	<.01	.04
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL , TOL, PENNSYLVANIA — OCT 26, 1
MONITORING WELL

	LF-11-20 10/25/83	LF-11-20 04/23/84	LF-12-13 10/26/83	LF-12-13 04/24/84
	N313435 /N313438	N406311 /N406314	N313478 /N313483	N406375 /N406381
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B35 HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36 HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37 INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38 ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39 NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40 NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41 N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42 N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43 N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44 PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45 PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46 1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47 BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	NT
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1 2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2 2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3 2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4 4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5 2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6 2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7 4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8 P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9 PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10 PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11 2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1 ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2 ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

692000 000769

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	LF-11-20 10/25/83	LF-11-20 04/23/84	LF-12-13 10/26/83	LF-12-13 04/24/84
	N313435 /N313438	N406311 /N406314	N313478 /N313483	N406375 /N406381
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P3 BETA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P4 GAMMA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P5 DELTA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P6 CHLORDANE UG/L	<10.0	<10.0	<10.0	<10.0
P7 4,4'-DDT UG/L	<10.0	<10.0	<10.0	<10.0
P8 4,4'-DDE UG/L	<10.0	<10.0	<10.0	<10.0
P9 4,4'-DDD UG/L	<10.0	<10.0	<10.0	<10.0
P10 DIELDRIN UG/L	<10.0	<10.0	<10.0	<10.0
P11 ALPHA-ENDOSULFAN UG/L	<10.0	<10.0	<10.0	<10.0
P12 BETA-ENDOSULFAN UG/L	<10.0	<10.0	<10.0	<10.0
P13 ENDOSULFAN SULFATE UG/L	<10.0	<10.0	<10.0	<10.0
P14 ENDRIN UG/L	<10.0	<10.0	<10.0	<10.0
P15 ENDRIN ALDEHYDE UG/L	<10.0	<10.0	<10.0	<10.0
P16 HEPTACHLOR UG/L	<10.0	<10.0	<10.0	<10.0
P17 HEPTACHLOR EPOXIDE UG/L	<10.0	<10.0	<10.0	<10.0
P18 PCB-1242 UG/L	<10.0	<10.0	<10.0	<10.0
P19 PCB-1254 UG/L	<10.0	<10.0	<10.0	<10.0
P20 PCB-1221 UG/L	<10.0	<10.0	<10.0	<10.0
P21 PCB-1232 UG/L	<10.0	<10.0	<10.0	<10.0
P22 PCB-1248 UG/L	<10.0	<10.0	<10.0	<10.0
P23 PCB-1260 UG/L	<10.0	<10.0	<10.0	<10.0
P24 PCB-1016 UG/L	<10.0	<10.0	<10.0	<10.0
P25 TOXAPHENE UG/L	<10.0	<10.0	<10.0	<10.0
P26 2,4-D UG/L	<1.0	<1.0	<1.0	<1.0
P27 2,4,5-TP UG/L	<.5	<.5	<.5	<.5
CATEGORY 5 PARAMETERS				
C53 GROSS A RADIOACTIVITY PC I/L	9.0	12.0	<2.0	17.0
C55 GROSS B RADIOACTIVITY PC I/L	19.0	11.0	8.0	14.0
C57 TOTAL RADIUM PC I/L	5.0	4.0	<1.0	3.0

ROHM AND HAAS LANDFILL [illegible]STOL, PENNSYLVANIA — OCT 26, [illegible]4
MONITORING WELL

	LF-11-20 10/25/83	LF-11-20 04/23/84	LF-12-13 10/26/83	LF-12-13 04/24/84
	N313435 /N313438	N406311 /N406314	N313478 /N313483	N406375 /N406381
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS MG/L	.02	.045	.005	<.002
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1 ACROLEIN UG/L	<100.0	NT	<100.0	NT
V2 ACRYLONITRILE UG/L	<100.0	NT	<100.0	NT
V3 BENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V4 BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	<10.0	<4.0
V5 BROMOFORM UG/L	<10.0	<1.0	<10.0	<1.0
V6 CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V7 CHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V9 CHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V10 2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	<10.0	NT
V11 CHLOROFORM UG/L	<10.0	<1.0	<10.0	<1.0
V12 BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V13 DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	<10.0	NT
V14 1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V15 1,2-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V16 1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V17 1,2-DICHLOROPROPANE UG/L	<10.0	<1.0	<10.0	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE * UG/L	<10.0	<1.0	<10.0	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V20 ETHYLBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V21 BROMOMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V22 CHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V23 METHYLENE CHLORIDE UG/L	<10.0	6.3***	<10.0	2.6***
V25 TETRACHLORETHYLENE ** UG/L	<10.0	<1.0	<10.0	<1.0
V26 TOLUENE UG/L	<10.0	5.2	<10.0	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V28 1,1,1-TRICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V30 TRICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V31 TRICHLOROFLUOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V32 VINYL CHLORIDE UG/L	<10.0	NT	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

T44000

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000772

			LF-11-20 10/25/83	LF-11-20 04/23/84	LF-12-13 10/26/83	LF-12-13 04/24/84
			N313435 /N313438	N406311 /N406314	N313478 /N313483	N406375 /N406381
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	24.0	<10.0	54.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<10.0	<10.0 <1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<10.0	<10.0 <1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<10.0	<10.0 <1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

			LF-11-20 10/25/83 N313435 /N313438	LF-11-20 04/23/84 N406311 /N406314	LF-12-13 10/26/83 N313478 /N313483	LF-12-13 04/24/84 N406375 /N406381
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	110.0	184.0	26.0	21.0
C2	TOTAL ORGANIC HALIDE	UG/L	84.0	77.0	154.0	<20.0
C3	BOD	MG/L	7.0	6.0	16.0	3.0
C4	COD	MG/L	210.0	185.0	40.0	44.0
C5	SPECIFIC CONDUCTANCE	UMHOS	2200.0	2054.0	340.0	276.0
C6	PH	SU	6.9	7.2	5.6	5.9
C7	TEMPERATURE	DEG. C	13.0	12.8	14.0	8.4
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	129.0	155.0	<.05	<.05
C9	BORON	MG/L	.16	.4	.05	.1
C10	CHLORIDE	MG/L	118.0	81.9	40.6	64.6
C11	FLUORIDE	MG/L	.23	.27	.07	.05
C12	IRON	MG/L	1.65	.69	4.95	<.04
C14	NITRATE	MG/L	1.35	.06	1.52	.3
C15	PHOSPHATE	MG/L	1.1	.09	.08	<.01
C16	SULFATE	MG/L	23.1	17.1	47.8	18.3
C17	SODIUM	MG/L	214.0	164.0	40.1	42.5
C18	POTASSIUM	MG/L	14.2	15.2	3.16	1.89
C43	BARIUM (GF)	MG/L	.132	.379	.055	.105
C52	MANGANESE	MG/L	6.25	5.59	.8	.06
C60	SULFIDE AS S	MG/L	<1.0	2.0	<1.0	4.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	<1.0	<1.0	<1.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	2.19	.966	.65	.15
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

0007773

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000774

			LF-11-20 10/25/83	LF-11-20 04/23/84	LF-12-13 10/26/83	LF-12-13 04/24/84
			N313435 /N313438	N406311 /N406314	N313478 /N313483	N406375 /N406381
		CATEGORY 3 PARAMETERS				
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	15.3	NT	<1.0
C111	TOLUENE	MG/L	<.1	<.1	NT	<.1
		CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L	<.15	<.17	<.15	<.15
T2	ARSENIC (GF)	MG/L	.004	.026	.004	.024
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.001
T4	CADMIUM (GF)	MG/L	.0012	.002	<.0005	.002
T5	CHROMIUM (GF)	MG/L	.002	<.002	.006	.011
T6	COPPER	MG/L	.05	<.03	.05	<.03
T7	LEAD (GF)	MG/L	<.002	.009	<.002	.008
T8	MERCURY	MG/L	<.0002	.0035	<.0002	.0005
T9	NICKEL	MG/L	.1	.1	.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.14	.2	.01	.09
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL ...STOL, PENNSYLVANIA — OCT 26, ...
MONITORING WELL

		LF-9-20 10/25/83	LF-9-20 04/20/84	LF-10-20 10/25/83	LF-10-20 04/23/84
		N313433 /N313436	N406244 /N406248	N313434 /N313437	N406310 /N406313
	CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	187.0	14.0	174.0	255.0
C2	TOTAL ORGANIC HALIDE	UG/L	247.0	109.0	79.0	85.0
C3	BOD	MG/L	250.0	28.0	58.0	12.0
C4	COD	MG/L	419.0	51.0	344.0	313.0
C5	SPECIFIC CONDUCTANCE	UMHOS	1764.0	1860.0	1740.0	2066.0
C6	PH	SU	5.7	6.3	6.7	6.8
C7	TEMPERATURE	DEG. C	14.0	11.1	14.0	10.0
	CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	.78	5.8	135.0	150.0
C9	BORON	MG/L	.2	.2	.3	.5
C10	CHLORIDE	MG/L	427.0	355.6	34.5	70.2
C11	FLUORIDE	MG/L	.09	.12	.48	.29
C12	IRON	MG/L	25.9	21.2	21.4	33.6
C14	NITRATE	MG/L	<2.5	<.05	.2	<.05
C15	PHOSPHATE	MG/L	.06	.17	2.2	.83
C16	SULFATE	MG/L	88.5	41.0	101.0	167.0
C17	SODIUM	MG/L	267.0	297.0	91.6	83.8
C18	POTASSIUM	MG/L	8.96	7.54	14.9	16.8
C43	BARIUM (GF)	MG/L	.179	.465	.105	.31
C52	MANGANESE	MG/L	8.63	4.52	1.37	1.99
C60	SULFIDE AS S	MG/L	<1.0	1.0	<1.0	4.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	<1.0	<1.0	2.0	<1.0
C20	SURFACTANTS (MBAS)	MG/L	.99	.199	3.11	1.55
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000776

			LF-9-20 10/25/83	LF-9-20 04/20/84	LF-10-20 10/25/83	LF-10-20 04/23/84
			N313433 /N313436	N406244 /N406248	N313434 /N313437	N406310 /N406313
			CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L	<.1	6.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	64.8
C111	TOLUENE	MG/L	<.1	<.1	<.1	<.1
			CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	.2	<.17	.15	<.17
T2	ARSENIC (GF)	MG/L	.004	.029	.004	.064
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0011	.003	.0008	.002
T5	CHROMIUM (GF)	MG/L	.013	<.002	.016	.012
T6	COPPER	MG/L	<.03	<.03	.03	<.03
T7	LEAD (GF)	MG/L	<.002	.014	<.002	.007
T8	MERCURY	MG/L	<.0002	.0048	<.0004	.0004
T9	NICKEL	MG/L	.1	<.1	.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.21	.14	.02	.16
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

		LF-9-20 10/25/83	LF-9-20 04/20/84	LF-10-20 10/25/83	LF-10-20 04/23/84
		N313433 /N313436	N406244 /N406248	N313434 /N313437	N406310 /N406313
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B35	HEXACHLOROCYCLOPENTADIENE	UG/L <10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L <10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L <25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L <10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L <10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L <10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L <10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L <10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L <10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L <10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L <10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L <10.0	<10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L <250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L <250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L <25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L <10.0	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	LF-9-20 10/25/83	LF-9-20 04/20/84	LF-10-20 10/25/83	LF-10-20 04/23/84
	N313433 /N313436	N406244 /N406248	N313434 /N313437	N406310 /N406313
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P4 GAMMA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P5 DELTA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P6 CHLORDANE UG/L	<10.0	<10.0	<10.0	<10.0
P7 4,4'-DDT UG/L	<10.0	<10.0	<10.0	<10.0
P8 4,4'-DDE UG/L	<10.0	<10.0	<10.0	<10.0
P9 4,4'-DDD UG/L	<10.0	<10.0	<10.0	<10.0
P10 DIELDRIN UG/L	<10.0	<10.0	<10.0	<10.0
P11 ALPHA-ENDOSULFAN UG/L	<10.0	<10.0	<10.0	<10.0
P12 BETA-ENDOSULFAN UG/L	<10.0	<10.0	<10.0	<10.0
P13 ENDOSULFAN SULFATE UG/L	<10.0	<10.0	<10.0	<10.0
P14 ENDRIN UG/L	<10.0	<10.0	<10.0	<10.0
P15 ENDRIN ALDEHYDE UG/L	<10.0	<10.0	<10.0	<10.0
P16 HEPTACHLOR UG/L	<10.0	<10.0	<10.0	<10.0
P17 HEPTACHLOR EPOXIDE UG/L	<10.0	<10.0	<10.0	<10.0
P18 PCB-1242 UG/L	<10.0	<10.0	<10.0	<10.0
P19 PCB-1254 UG/L	<10.0	<10.0	<10.0	<10.0
P20 PCB-1221 UG/L	<10.0	<10.0	<10.0	<10.0
P21 PCB-1232 UG/L	<10.0	<10.0	<10.0	<10.0
P22 PCB-1248 UG/L	<10.0	<10.0	<10.0	<10.0
P23 PCB-1260 UG/L	<10.0	<10.0	<10.0	<10.0
P24 PCB-1016 UG/L	<10.0	<10.0	<10.0	<10.0
P25 TOXAPHENE UG/L	<10.0	<10.0	<10.0	<10.0
P26 2,4-D UG/L	<1.0	<1.0	<1.0	<1.0
P27 2,4,5-TP UG/L	<.5	<.5	<.5	<.5
CATEGORY 5 PARAMETERS				
C53 GROSS A RADIOACTIVITY PC I/L	<2.0	<2.0	<2.0	7.0
C55 GROSS B RADIOACTIVITY PC I/L	11.0	13.0	14.0	19.0
C57 TOTAL RADIUM PC I/L	<1.0	4.0	1.0	5.0

ROHM AND HAAS LANDFILL .STOL, PENNSYLVANIA OCT 26, .4
MONITORING WELL

	LF-9-20 10/25/83	LF-9-20 04/20/84	LF-10-20 10/25/83	LF-10-20 04/23/84
	N313433 /N313436	N406244 /N406248	N313434 /N313437	N406310 /N406313
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS MG/L	.026	.003	.02	.13
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1 ACROLEIN UG/L	<100.0	NT	<100.0	NT
V2 ACRYLONITRILE UG/L	<100.0	NT	<100.0	NT
V3 BENZENE UG/L	<10.0	<1.0	<10.0	69.1
V4 BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	<10.0	<4.0
V5 BROMOFORM UG/L	<10.0	<1.0	<10.0	<1.0
V6 CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V7 CHLOROBENZENE UG/L	<10.0	<1.0	<10.0	1.3
V9 CHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V10 2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	<10.0	NT
V11 CHLOROFORM UG/L	40.0	<1.0	<10.0	<1.0
V12 BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V13 DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	<10.0	NT
V14 1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V15 1,2-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V16 1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V17 1,2-DICHLOROPROPANE UG/L	14.0	<1.0	<10.0	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE * UG/L	<10.0	<1.0	<10.0	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V20 ETHYLBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V21 BROMOMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V22 CHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V23 METHYLENE CHLORIDE UG/L	<10.0	5.6***	<10.0	4.8***
V25 TETRACHLORETHYLENE ** UG/L	<12.0	6.6	<10.0	<1.0
V26 TOLUENE UG/L	<10.0	<1.0	<10.0	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V28 1,1,1-TRICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V30 TRICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V31 TRICHLOROFLUOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V32 VINYL CHLORIDE UG/L	<10.0	<1.0	<10.0	NT

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

000779

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000730

		LF-9-20 10/25/83	LF-9-20 04/20/84	LF-10-20 10/25/83	LF-10-20 04/23/84
		N313433 /N313436	N406244 /N406248	N313434 /N313437	N406310 /N406313
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B2	ACENAPHTHYLENE	UG/L <10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L <10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L <10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L <10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L <10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L <10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L <25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L <10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L <10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L <10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L <10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L <10.0	32.0	13.0	31.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L <10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L <10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L <10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L <10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L <10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L <25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L <10.0	<1.0 <10.0	<10.0	<1.0 <10.0
B21	1,3-DICHLOROBENZENE	UG/L <10.0	<1.0 <10.0	<10.0	<1.0 <10.0
B22	1,4-DICHLOROBENZENE	UG/L <10.0	<1.0 <10.0	<10.0	<1.0 <10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L <10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L <10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L <10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L <10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L <10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L <10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L <10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L <10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L <10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L <10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L <10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L <10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL ...STOL, PENNSYLVANIA OCT 26, ..84
MONITORING WELL

	LF-7-30 11/03/83	LF-7-30 04/20/84	LF-8-18 11/01/83	LF-8-18 04/20/84
	N313998 /N314002	N406242 /N406246	N313829 /N313833	N406243 /N406247
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B34 HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35 HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36 HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37 INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38 ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39 NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40 NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41 N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42 N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43 N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44 PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45 PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46 1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1 2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2 2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3 2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	47.0
A4 4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5 2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6 2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7 4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8 P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9 PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10 PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11 2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1 ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2 ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000782

			LF-7-30 11/03/83	LF-7-30 04/20/84	LF-8-18 11/01/83	LF-8-18 04/20/84
			N313998 /N314002	N406242 /N406246	N313829 /N313833	N406243 /N406247
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	7.0	9.0
C55	GROSS B RADIOACTIVITY	PC I/L	11.0	11.0	22.0	13.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	2.0	4.0

ROHM AND HAAS LANDFILL ..TOL, PENNSYLVANIA OCT 26, . .
MONITORING WELL

		LF-7-30 11/03/83	LF-7-30 04/20/84	LF-8-18 11/01/83	LF-8-18 04/20/84
		N313998 /N314002	N406242 /N406246	N313829 /N313833	N406243 /N406247
	CATEGORY 4 - OTHER PARAMETERS				
T14	CYANIDE	MG/L .006	<.005	.007	<.005
T15	PHENOLS	MG/L .02	.012	<.026	.036
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN	UG/L <100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L <100.0	NT	<100.0	NT
V3	BENZENE	UG/L <10.0	3.1	49.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L <10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L <10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L <10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L <10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L <10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L <10.0	<1.0	<10.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L <10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L <10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L <10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L <10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L <10.0	4.2***	<10.0	4.3***
V25	TETRACHLORETHYLENE **	UG/L <10.0	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L <10.0	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	4.0
V31	TRICHLOROFLUOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE	UG/L <10.0	<1.0	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

000783

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000784

			LF-7-30 11/03/83	LF-7-30 04/20/84	LF-8-18 11/01/83	LF-8-18 04/20/84
			N313998 /N314002	N406242 /N406246	N313829 /N313833	N406243 /N406247
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	20.0	<10.0	44.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<1.0
				<1.0		<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<1.0
				<1.0		<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<1.0
				<1.0		<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL ...JTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 26, ...4

	LF-6-26	LF-6-55	LF-6-55
	05/09/84	11/04/83	05/09/84
	N407324 /N407328	N314023 /N314024	N407323 /N407327 /

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	2.0
C55	GROSS B RADIOACTIVITY	PC I/L	5.0	12.0	11.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0

000785

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000786

			LF-7-30 11/03/83	LF-7-30 04/20/84	LF-8-18 11/01/83	LF-8-18 04/20/84
			N313998 /N314002	N406242 /N406246	N313829 /N313833	N406243 /N406247
		CATEGORY 3 PARAMETERS				
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	13.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	.01	<.01	.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	<.1	<.1	NT	<.1
		CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L	<.15	<.17	<.15	<.17
T2	ARSENIC (GF)	MG/L	<.001	.028	.118	.085
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0005	.002	<.0005	.002
T5	CHROMIUM (GF)	MG/L	.013	<.002	.012	<.002
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	.002	.023	<.002	.014
T8	MERCURY	MG/L	<.0002	<.0002	.0005	<.0002
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.04	.03	.11	.09

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL B OL, PENNSYLVANIA
MONITORING WELL DATA

OCT 26, 1...

000787

		LF-6-26 05/09/84	LF-6-55 11/04/83	LF-6-55 05/09/84
		N407324 /N407328	N314023 /N314024	N407323 /N407327 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS			
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	17.0	<10.0	59.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<1.0	<10.0	<1.0
			<10.0		<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<1.0	<10.0	<1.0
			<10.0		<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<1.0	<10.0	<1.0
			<10.0		<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 26, 1984

000738

		LF-6-26 05/09/84	LF-6-55 11/04/83	LF-6-55 05/09/84
		N407324 /N407328	N314023 /N314024	N407323 /N407327
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS			
B35	HEXACHLOROCYCLOPENTADIENE	UG/L <10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L <10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L <25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L <10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L <10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L <10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L <10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L <10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L <10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L <10.0	<10.0	<10.0
B45	PYRENE	UG/L <10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L <10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L <10.0	NT	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS			
A1	2-CHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L <25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L <250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L <250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L <25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L <25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L <25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L <25.0	<25.0	<25.0
A10	PHENOL	UG/L <25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L <25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P1	ALDRIN	UG/L <10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L <10.0	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 26, 1984

		LF-6-26 05/09/84	LF-6-55 11/04/83	LF-6-55 05/09/84
		N407324 /N407328	N314023 /N314024	N407323 /N407327 /
	CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L <.1	<.1	<.1
C25	ETHANOL	MG/L <.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L <10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L <.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L <.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L <.1	<.1	<.1
C30	STYRENE	MG/L <.1	<.1	<.1
C31	ACETONE	MG/L <.1	<.1	<.1
C32	ETHYL ACETATE	MG/L <.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L <.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L <.1	<.1	<.1
C35	DITHANE	MG/L <.02	<.02	<.02
C36	LETHANE	MG/L <.001	<.001	<.001
C37	KARATHANE	MG/L <.01	<.01	<.01
C38	DNCP	MG/L <.01	<.01	<.01
C69	TOTAL XYLENES	UG/L NT	NT	<1.0
C111	TOLUENE	MG/L <.1	<.1	<.1
	CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L <.15	<.15	<.15
T2	ARSENIC (GF)	MG/L .004	.015	.005
T3	BERYLLIUM	MG/L <.01	<.01	<.01
T4	CADMIUM (GF)	MG/L .012	.0019	.001
T5	CHROMIUM (GF)	MG/L .004	.011	.005
T6	COPPER	MG/L .03	<.03	<.03
T7	LEAD (GF)	MG/L <.002	<.002	.003
T8	MERCURY	MG/L .0022	.0009	.0027
T9	NICKEL	MG/L .48	<.1	<.1
T10	SELENIUM	MG/L <.001	<.001	<.001
T11	SILVER	MG/L <.001	<.001	<.001
T12	THALLIUM	MG/L <.3	<.3	<.3
T13	ZINC	MG/L 2.5	.06	.08
T14	CYANIDE	MG/L <.005	<.005	<.005

NT - NOT TESTED AS PART OF THIS STUDY.

000789

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 26, 1984

000790

			LF-6-26 05/09/84	LF-6-55 11/04/83	LF-6-55 05/09/84
			N407324 /N407328	N314023 /N314024	N407323 /N407327
	CATEGORY 4 - OTHER PARAMETERS				
T15	PHENOLS	MG/L	.002	.009	.004
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN	UG/L	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	NT	<100.0	NT
V3	BENZENE	UG/L	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	NT	<10.0	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<10.0	<1.0
V9	CHLOROETHANE	UG/L	NT	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	NT	<10.0	NT
V11	CHLOROFORM	UG/L	NT	<10.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	NT	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	NT	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	NT	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	NT	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L	<1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L	NT	<10.0	<1.0
V22	CHLOROMETHANE	UG/L	NT	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	NT	<10.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	NT	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	NT	<10.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	<10.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	NT	<10.0	<1.0
V32	VINYL CHLORIDE	UG/L	NT	<10.0	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 31, 1984

			LF-4-21 11/03/83	LF-4-21 04/19/84	LF-5-25 11/03/83	LF-5-25 04/20/84
			N313996 /N314000	N406170 /N406176	N313997 /N314001	N406241 /N406245
			/	N412044 /	/	/
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	2.0	3.0
C55	GROSS B RADIOACTIVITY	PC I/L	83.0	18.0	9.0	7.0
C57	TOTAL RADIUM	PC I/L	5.0	2.0	1.7	4.0

000791

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL DATA

OCT 26, 1984

000782

			LF-6-26 05/09/84	LF-6-55 11/04/83	LF-6-55 05/09/84
			N407324 /N407328	N314023 /N314024	N407323 /N407327
		CATEGORY 1 PARAMETERS			
C1	TOTAL ORGANIC CARBON	MG/L	11.0	13.0	25.0
C2	TOTAL ORGANIC HALIDE	UG/L	26.0	44.0	33.0
C3	BOD	MG/L	8.0	300.0	32.0
C4	COD	MG/L	28.0	60.0	49.0
C5	SPECIFIC CONDUCTANCE	UMHOS	333.0	420.0	306.0
C6	PH	SU	5.2	6.6	8.1
C7	TEMPERATURE	DEG. C	11.7	13.0	13.9
		CATEGORY 2 PARAMETERS			
C8	NITROGEN, AMMONIA	MG/L	<.05	1.98	1.87
C9	BORON	MG/L	<.1	.05	.1
C10	CHLORIDE	MG/L	1.4	41.3	30.4
C11	FLUORIDE	MG/L	.7	.2	.1
C12	IRON	MG/L	2.68	14.1	.08
C14	NITRATE	MG/L	.66	<.05	<.05
C15	PHOSPHATE	MG/L	.02	.1	.07
C16	SULFATE	MG/L	127.0	2.68	1.78
C17	SODIUM	MG/L	3.39	42.0	38.2
C18	POTASSIUM	MG/L	3.17	15.2	14.4
C43	BARIUM (DF)	MG/L	.07	.183	.164
C52	MANGANESE	MG/L	4.6	1.04	.11
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0
		CATEGORY 3 PARAMETERS			
C19	OIL AND GREASE	MG/L	1.0	2.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	<.03	.064	.18
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 31, 1984

000792

	LF-4-21 11/03/83	LF-4-21 04/19/84	LF-5-25 11/03/83	LF-5-25 04/20/84
	N313996 /N314000	N406170 /N406176	N313997 /N314001	N406241 /N406245
	/	N412044 /	/	/

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
				<1.0		<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
				<1.0		<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(A) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 31, 1984

000794

			LF-4-21 11/03/83	LF-4-21 04/19/84	LF-5-25 11/03/83	LF-5-25 04/20/84
			N313996 /N314000	N406170 /N406176	N313997 /N314001	N406241 /N406245
			/	N412044 /	/	/
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	B10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 31, 1984

000795

	LF-4-21 11/03/83	LF-4-21 04/19/84	LF-5-25 11/03/83	LF-5-25 04/20/84
	N313996 /N314000	N406170 /N406176	N313997 /N314001	N406241 /N406245
	/	N412044 /	/	/

CATEGORY 4 - OTHER PARAMETERS

T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.17	.06	.08	.05
T14	CYANIDE	MG/L	.006	<.005	<.005	<.005
T15	PHENOLS	MG/L	.066	.05	.01	<.002

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V1	ACROLEIN	UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	<100.0	NT
V3	BENZENE	UG/L	60.0	45.1 34.5	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L	48.0	52.7 26.2	<10.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L	<10.0	4.2 <1.0	<10.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L	20.0	8.3 <1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	9.7*** 2.2	<10.0	3.1***

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

000796

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 31, 1984

			LF-4-21 11/03/83	LF-4-21 04/19/84	LF-5-25 11/03/83	LF-5-25 04/20/84
			N313996 /N314000	N406170 /N406176	N313997 /N314001	N406241 /N406245
			/	N412044 /	/	/
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V25	TETRACHLOROETHYLENE **	UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L	<10.0	204.0***	<10.0	<1.0
				<1.0		
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
				1.8		
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	770.0	310.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	64.0	<10.0	12.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
				<1.0		<10.0

NT-NOT TESTED AS PART OF THIS STUDY

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED ONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 31, 1984

000797

			LF-4-21 11/03/83	LF-4-21 04/19/84	LF-5-25 11/03/83	LF-5-25 04/20/84
			N313996 /N314000	N406170 /N406176	N313997 /N314001	N406241 /N406245
			/	N412044 /	/	/
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	69.0	160.0	282.0	7.0
C2	TOTAL ORGANIC HALIDE	UG/L	3200.0	1210.0	48.0	68.0
C3	BOD	MG/L	8.0	14.0	5.0	11.0
C4	COD	MG/L	157.0	155.0	24.0	16.0
C5	SPECIFIC CONDUCTANCE	UMHOS	1609.0	1416.0	640.0	720.0
C6	PH	SU	6.7	6.6	6.5	6.5
C7	TEMPERATURE	DEG. C	16.0	14.5	15.0	12.2
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	124.0	138.0	19.8	22.5
C9	BORON	MG/L	.17	.2	.01	.1
C10	CHLORIDE	MG/L	95.0	74.9	17.5	14.0
C11	FLUORIDE	MG/L	.196	.36	.087	.13
C12	IRON	MG/L	43.4	37.0	46.3	45.1
C14	NITRATE	MG/L	<.05	.19	<.05	<.05
C15	PHOSPHATE	MG/L	.2	1.13	.2	.28
C16	SULFATE	MG/L	12.83	19.3	35.8	53.4
C17	SODIUM	MG/L	43.0	34.3	15.4	13.5
C18	POTASSIUM	MG/L	29.1	30.9	7.94	9.29
C43	BARIUM (GF)	MG/L	.73	.185	.485	.431
C52	MANGANESE	MG/L	.9	.68	9.38	16.3
C60	SULFIDE AS S	MG/L	<1.0	3.0	<1.0	1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	2.0	2.0	1.0	<1.0
C20	SURFACTANTS (MBAS)	MG/L	2.22	3.9	.05	.294
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

000798

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 31, 1984

		LF-4-21 11/03/83	LF-4-21 04/19/84	LF-5-25 11/03/83	LF-5-25 04/20/84
		N313996 /N314000	N406170 /N406176	N313997 /N314001	N406241 /N406245
		/	N412044 /	/	/
	CATEGORY 3 PARAMETERS				
C23	N-BUTYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L <.1	<.1	<.1	<.1
C25	ETHANOL	MG/L <.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L <10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L <.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L <.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L <.1	<.1	<.1	<.1
C30	STYRENE	MG/L <.1	<.1	<.1	<.1
C31	ACETONE	MG/L <.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L <.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L <.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L <.1	<.1	<.1	<.1
C35	DITHANE	MG/L <.02	<.02	<.02	<.02
C36	LETHANE	MG/L <.001	<.001	<.001	<.001
C37	KARATHANE	MG/L <.01	<.01	<.01	<.01
C38	DNCP	MG/L <.01	.01	<.01	<.01
C69	TOTAL XYLENES	UG/L NT	1700.0 966.0	NT	<1.0
C111	TOLUENE	MG/L <.1	<.1	NT	<.1
	CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L <.15	<.17	<.15	<.17
T2	ARSENIC (GF)	MG/L .005	.027	.009	.028
T3	BERYLLIUM	MG/L <.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L .0006	<.0008	.0006	.002
T5	CHROMIUM (GF)	MG/L .015	<.004	.012	<.002
T6	COPPER	MG/L <.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L .002	.034	.002	.005
T8	MERCURY	MG/L .0003	.0021	<.0002	<.0002
T9	NICKEL	MG/L .1	<.1	<.1	<.1
T10	SELENIUM	MG/L <.001	<.001	<.001	<.001
T11	SILVER	MG/L <.001	<.001	<.001	<.001

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

		LF-3-26 11/02/83	LF-3-26 04/19/84	LF-3-50 11/03/83	LF-3-50 04/19/84
		N313924 /N313929	N406169 /N406175	N313995 /N313999	N406168 /N406174
		/	N412043 /	/	N412042 /
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A2	2,4-DICHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L <250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L <250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L <25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L 33.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L <25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L <25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1	ALDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L <10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L <10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L <10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L <10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L <10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L <10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L <10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L <10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L <10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L <10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L <10.0	<10.0	<10.0	<10.0

007799

000800

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	LF-3-26 11/02/83	LF-3-26 04/19/84	LF-3-50 11/03/83	LF-3-50 04/19/84
	N313924 /N313929	N406169 /N406175	N313995 /N313999	N406168 /N406174
	/	N412043 /	/	N412042 /

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	6.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	17.0	19.0	83.0	5.0
C57	TOTAL RADIUM	PC I/L	11.6	4.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

		LF-3-26 11/02/83	LF-3-26 04/19/84	LF-3-50 11/03/83	LF-3-50 04/19/84
		N313924 /N313929	N406169 /N406175	N313995 /N313999	N406168 /N406174
		/	N412043 /	/	N412042 /
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V25	TETRACHLORETHYLENE **	UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L	<10.0	229.0***	<10.0	188.0***
				8.5		<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
				1.6		<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<1.0
				<1.0		<1.0

NT-NOT TESTED AS PART OF THIS STUDY

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000802

			LF-3-26 11/02/83	LF-3-26 04/19/84	LF-3-50 11/03/83	LF-3-50 04/19/84
			N313924 /N313929	N406169 /N406175	N313995 /N313999	N406168 /N406174
			/	N412043 /	/	N412042 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
821	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<10.0	<1.0 <1.0
822	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<10.0	<1.0 <1.0
823	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
824	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
825	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
826	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
827	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
828	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
829	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
830	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
831	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
832	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
833	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
834	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
835	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
836	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
837	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
838	ISOPHORONE	UG/L	16.0	<10.0	14.0	<10.0
839	NAPHTHALENE	UG/L	<10.0	47.0	<10.0	<10.0
840	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
841	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
842	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
843	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
844	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
845	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
846	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
847	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			LF-3-26 11/02/83	LF-3-26 04/19/84	LF-3-50 11/03/83	LF-3-50 04/19/84
			N313924 /N313929	N406169 /N406175	N313995 /N313999	N406168 /N406174
			/	N412043 /	/	N412042 /
	CATEGORY 3 PARAMETERS					
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	83.1	NT	15.0
				<1.0		<1.0
C111	TOLUENE	MG/L	<.1	<.1	<.1	<.1
	CATEGORY 4 - OTHER PARAMETERS					
T1	ANTIMONY	MG/L	<.15	<.17	<.15	<.17
T2	ARSENIC (GF)	MG/L	.004	.025	.015	.028
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0051	<.0005	<.0005	<.0008
T5	CHROMIUM (GF)	MG/L	.017	<.005	.013	<.003
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	.002	.029	.002	.041
T8	MERCURY	MG/L	.001	.0002	<.0002	<.0002
T9	NICKEL	MG/L	.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001

NT-NOT TESTED AS PART OF THIS STUDY

000803

000804

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

		LF-3-26 11/02/83	LF-3-26 04/19/84	LF-3-50 11/03/83	LF-3-50 04/19/84
		N313924 /N313929	N406169 /N406175	N313995 /N313999	N406168 /N406174
		/	N412043 /	/	N412042 /
	CATEGORY 4 - OTHER PARAMETERS				
T12	THALLIUM	MG/L <.3	<.3	<.3	<.3
T13	ZINC	MG/L .16	.12	.02	.1
T14	CYANIDE	MG/L .005	<.005	.007	<.005
T15	PHENOLS	MG/L .01	.013	.01	.009
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN	UG/L <100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L <100.0	NT	<100.0	NT
V3	BENZENE	UG/L <10.0	3.5	<10.0	<1.0
			15.1		<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L <10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L <10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L <10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L 11.0	9.1	<10.0	<1.0
			17.9		8.3
V9	CHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L <10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L <10.0	3.2	<10.0	1.3
			<1.0		<1.0
V12	BROMODICHLOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L <10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L <10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L <10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L 16.0	11.6	<10.0	<1.0
			<1.0		<1.0
V21	BROMOMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L <10.0	9.3***	<10.0	10.4***
			20.5		3.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK CO TED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			LF-1-25 10/02/83	LF-1-25 04/19/84	LF-2-12 11/02/83	LF-2-12 04/19/84
			N313922 /N313927	N406166 /N406172	N313923 /N313928	N406167 /N406173
			/	N412040 /	/	N412041 /
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	28.0	28.0	18.0	12.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

908005

000906

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			LF-3-26 11/02/83	LF-3-26 04/19/84	LF-3-50 11/03/83	LF-3-50 04/19/84
			N313924 /N313929	N406169 /N406175	N313995 /N313999	N406168 /N406174
			/	N412043 /	/	N412042 /
			CATEGORY 1 PARAMETERS			
C1	TOTAL ORGANIC CARBON	MG/L	363.0	80.0	43.0	54.0
C2	TOTAL ORGANIC HALIDE	UG/L	86.0	29.0	60.0	22.0
C3	BOD	MG/L	8.0	20.0	8.0	41.0
C4	COD	MG/L	125.0	145.0	60.0	88.0
C5	SPECIFIC CONDUCTANCE	UMHOS	2016.0	1590.0	994.0	1063.0
C6	PH	SU	6.7	6.7	7.0	6.5
C7	TEMPERATURE	DEG. C	16.0	12.8	13.0	13.3
			CATEGORY 2 PARAMETERS			
C8	NITROGEN, AMMONIA	MG/L	136.0	140.0	42.5	59.5
C9	BORON	MG/L	.22	.2	.03	.1
C10	CHLORIDE	MG/L	194.0	128.7	100.0	133.4
C11	FLUORIDE	MG/L	.125	.28	.18	.19
C12	IRON	MG/L	33.7	26.5	34.6	44.8
C14	NITRATE	MG/L	<.05	<.05	<.05	<.05
C15	PHOSPHATE	MG/L	1.9	1.35	.1	1.51
C16	SULFATE	MG/L	4.87	3.0	13.86	2.4
C17	SODIUM	MG/L	107.0	65.5	103.0	68.5
C18	POTASSIUM	MG/L	26.6	24.0	54.0	18.7
C43	BARIUM (GF)	MG/L	.026	.11	.178	.137
C52	MANGANESE	MG/L	1.29	1.13	4.5	4.38
C60	SULFIDE AS S	MG/L	<1.0	1.0	<1.0	7.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
			CATEGORY 3 PARAMETERS			
C19	OIL AND GREASE	MG/L	<1.0	4.0	<1.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	.785	1.45	.626	1.02
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

008007

			LF-1-25 10/02/83	LF-1-25 04/19/84	LF-2-12 11/02/83	LF-2-12 04/19/84
			N313922 /N313927	N406166 /N406172	N313923 /N313928	N406167 /N406173
			/	N412040 /	/	N412041 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	12.0	19.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	NT	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	31.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0

NT-NOT TESTED AS PART OF THIS STUDY

000808

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			LF-1-25 10/02/83	LF-1-25 04/19/84	LF-2-12 11/02/83	LF-2-12 04/19/84
			N313922 /N313927 /	N406166 /N406172 N412040 /	N313923 /N313928 /	N406167 /N406173 N412041 /
		CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	190.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
		CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<.1	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

608000

		LF-1-25 10/02/83	LF-1-25 04/19/84	LF-2-12 11/02/83	LF-2-12 04/19/84
		N313922 /N313927	N406166 /N406172	N313923 /N313928	N406167 /N406173
		/	N412040 /	/	N412041 /
	CATEGORY 4 - OTHER PARAMETERS				
T14	CYANIDE MG/L	.007	.009	.006	.01
T15	PHENOLS MG/L	.054	.26	.152	.13
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE UG/L	<100.0	NT	<1000.0	NT
V3	BENZENE UG/L	23.0	21.3	200.0	182.0
			51.4		88.5
V4	BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	<100.0	<4.0
V5	BROMOFORM UG/L	<10.0	<1.0	<100.0	<1.0
V6	CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<100.0	<1.0
V7	CHLOROBENZENE UG/L	<10.0	<1.0	<100.0	<1.0
V9	CHLOROETHANE UG/L	<10.0	<1.0	<100.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	<100.0	NT
V11	CHLOROFORM UG/L	<10.0	1.9	<100.0	<1.0
			<1.0		<1.0
V12	BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<100.0	<1.0
V13	DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	<100.0	NT
V14	1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<100.0	<1.0
V15	1,2-DICHLOROETHANE UG/L	<10.0	<1.0	<100.0	<1.0
V16	1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<100.0	<1.0
V17	1,2-DICHLOROPROPANE UG/L	<10.0	<1.0	<100.0	<1.0
V18	CIS-1,3-DICHLOROPHOPYLENE * UG/L	<10.0	<1.0	<100.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE UG/L	<10.0	<1.0	<100.0	<1.0
V20	ETHYLBENZENE UG/L	<10.0	<1.0	<100.0	44.0
			<1.0		<1.0
V21	BROMOMETHANE UG/L	<10.0	<1.0	<100.0	<1.0
V22	CHLOROMETHANE UG/L	<10.0	<1.0	<100.0	<1.0
V23	METHYLENE CHLORIDE UG/L	<10.0	49.2***	<100.0	16.3***
			2.8		1.5
V25	TETRACHLORETHYLENE ** UG/L	<10.0	<1.0	<100.0	<1.0
V26	TOLUENE UG/L	<10.0	370.0***	<100.0	537.0***
		<10.0	<1.0		42.8

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL PLANS COLLECTED ON SAME DAY EXHIBITED AN ELEVATED

000810

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
MONITORING WELL

	LF-1-25 10/02/83	LF-1-25 04/19/84	LF-2-12 11/02/83	LF-2-12 04/19/84
	N313922 /N313927 /	N406166 /N406172 N412040 /	N313923 /N313928 /	N406167 /N406173 N412041 /

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<100.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<100.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<100.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<100.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<100.0	<1.0

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	37.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0 <1.0	<10.0	<10.0 <1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0 <1.0	<10.0	<10.0 <1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0 <1.0	<10.0	<10.0 <1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			LF-1-25 10/02/83	LF-1-25 04/19/84	LF-2-12 11/02/83	LF-2-12 04/19/84
			N313922 /N313927	N406166 /N406172	N313923 /N313928	N406167 /N406173
			/	N412040 /	/	N412041 /
			CATEGORY 1 PARAMETERS			
C1	TOTAL ORGANIC CARBON	MG/L	278.0	298.0	812.0	184.0
C2	TOTAL ORGANIC HALIDE	UG/L	430.0	430.0	580.0	146.0
C3	BOD	MG/L	72.0	27.0	46.0	137.0
C4	COD	MG/L	365.0	405.0	193.0	190.0
C5	SPECIFIC CONDUCTANCE	UMHOS	2854.0	2940.0	3323.0	1415.0
C6	PH	SU	6.9	7.0	6.7	6.5
C7	TEMPERATURE	DEG. C	14.0	13.3	17.0	9.4
			CATEGORY 2 PARAMETERS			
C8	NITROGEN, AMMONIA	MG/L	216.0	218.0	134.0	80.0
C9	BORON	MG/L	.52	.8	1.65	.8
C10	CHLORIDE	MG/L	156.0	145.1	398.0	96.4
C11	FLUORIDE	MG/L	.196	.31	.18	.2
C12	IRON	MG/L	16.3	19.1	53.2	73.5
C14	NITRATE	MG/L	<.05	<.05	.08	<.05
C15	PHOSPHATE	MG/L	3.2	2.37	1.2	2.46
C16	SULFATE	MG/L	1.63	2.1	1.11	1.1
C17	SODIUM	MG/L	174.0	157.0	414.0	126.0
C18	POTASSIUM	MG/L	42.6	48.2	34.2	21.9
C43	BARIUM (GF)	MG/L	.028	.099	.028	.062
C52	MANGANESE	MG/L	4.63	3.98	.43	.83
C60	SULFIDE AS S	MG/L	<1.0	15.0	<1.0	9.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
			CATEGORY 3 PARAMETERS			
C19	OIL AND GREASE	MG/L	3.0	3.0	2.0	7.0
C20	SURFACTANTS (MBAS)	MG/L	1.27	3.3	.818	2.07
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

000811

000812

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			LF-1-25 10/02/83	LF-1-25 04/19/84	LF-2-12 11/02/83	LF-2-12 04/19/84
			N313922 /N313927	N406166 /N406172	N313923 /N313928	N406167 /N406173
			/	N412040 /	/	N412041 /
	CATEGORY 3 PARAMETERS					
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	.01	<.01	.01
C69	TOTAL XYLENES	UG/L	NT	11.5 <1.0	NT	311.0 216.0
C111	TOLUENE	MG/L	<.1	<.1	<.1	<.1
	CATEGORY 4 - OTHER PARAMETERS					
T1	ANTIMONY	MG/L	<.15	<.17	<.15	<.17
T2	ARSENIC (GF)	MG/L	.007	.021	.004	.023
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.0005	<.002	<.0005	<.001
T5	CHROMIUM (GF)	MG/L	.023	<.014	.027	<.009
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	.002	.022	.002	.038
T8	MERCURY	MG/L	<.0002	.0004	.0002	<.0002
T9	NICKEL	MG/L	.1	<.1	.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.0001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.13	.08	1.04	.62

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL [illegible] JTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, [illegible]

	LF-14-20 10/26/83	LF-14-20 04/24/84		
	N313480 /N313485	N406379 /N406385	/	/

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	65.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0
				<1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0
				<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0
				<1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

000813

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000814

			LF-14-20 10/26/83	LF-14-20 04/24/84		
			N313480 /N313485	N406379 /N406385	/	/
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0		
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0		
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0		
B38	ISOPHORONE	UG/L	<10.0	<10.0		
B39	NAPHTHALENE	UG/L	<10.0	<10.0		
B40	NITROBENZENE	UG/L	<10.0	<10.0		
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0		
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0		
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0		
B44	PHENANTHRENE	UG/L	<10.0	<10.0		
B45	PYRENE	UG/L	<10.0	<10.0		
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0		
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0		
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0		
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0		
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0		
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0		
A6	2-NITROPHENOL	UG/L	<25.0	<25.0		
A7	4-NITROPHENOL	UG/L	<25.0	<25.0		
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0		
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0		
A10	PHENOL	UG/L	<25.0	<25.0		
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0		
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0		
P2	ALPHA-BHC	UG/L	<10.0	<10.0		
P3	BETA-BHC	UG/L	<10.0	<10.0		

ROHM AND HAAS LANDFILL [illegible]TOL, PENNSYLVANIA
MONITORING WELL

OCT 26, [illegible]

	LF-14-20 10/26/83	LF-14-20 04/24/84		
	N313480 /N313485	N406379 /N406385	/	/

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P4	GAMMA-BHC	UG/L	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	8.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	18.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0

000815

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000816

			LF-15-26 10/26/83	LF-15-26 04/25/84	LF-15-37 02/06/84	LF-15-37 04/24/84
			N313481 /N313486	N406447 /N406453	N401695 /N401703	N406380 /N406386
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	15.0	10.0	25.0	8.0
C2	TOTAL ORGANIC HALIDE	UG/L	NT	<20.0	NT	<20.0
C3	BOD	MG/L	15.0	10.0	8.0	3.0
C4	COD	MG/L	29.0	24.0	40.0	24.0
C5	SPECIFIC CONDUCTANCE	UMHOS	171.0	145.0	204.0	199.0
C6	PH	SU	6.0	5.8	6.0	5.6
C7	TEMPERATURE	DEG. C	14.0	11.7	NT	12.2
C135	TOTAL COLIFORM PER 100 ML NO.		NT	NT	460.0	NT
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05	<.05
C9	BORON	MG/L	.05	.1	NT	.1
C10	CHLORIDE	MG/L	14.7	10.3	5.8	17.3
C11	FLUORIDE	MG/L	.05	.06	.02	.06
C12	IRON	MG/L	<.04	<.04	3.72	<.04
C14	NITRATE	MG/L	1.18	2.11	1.49	3.6
C15	PHOSPHATE	MG/L	.01	.02	.02	.06
C16	SULFATE	MG/L	28.1	25.2	46.2	35.9
C17	SODIUM	MG/L	15.4	4.62	11.4	9.07
C18	POTASSIUM	MG/L	2.72	1.72	2.79	1.93
C43	BARIUM (GF)	MG/L	.042	.068	.078	.163
C52	MANGANESE	MG/L	.63	.44	.532	.03
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	<1.0	3.0	2.0	2.0
C20	SURFACTANTS (MBAS)	MG/L	.56	.049	.107	<.025
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL ..STOL, PENNSYLVANIA
MONITORING WELL

OCT 26, . 4

	LF-15-26 10/26/83	LF-15-26 04/25/84	LF-15-37 02/06/84	LF-15-37 04/24/84
	N313481 /N313486	N406447 /N406453	N401695 /N401703	N406380 /N406386
CATEGORY 3 PARAMETERS				
C23 N-BUTYL ALCOHOL MG/L	<.1	<.1	<.1	<.1
C24 ISOPROPYL ALCOHOL MG/L	<.1	<.1	<.1	<.1
C25 ETHANOL MG/L	<.1	<.1	<.1	<.1
C26 BUTYL METHACRYLATE MG/L	<10.0	<10.0	<10.0	<10.0
C27 METHYL METHACRYLATE MG/L	<.1	<.1	<.1	<.1
C28 ETHYL ACRYLATE MG/L	<.1	<.1	<.1	<.1
C29 BUTYL ACRYLATE MG/L	<.1	<.1	<.1	<.1
C30 STYRENE MG/L	<.1	<.1	<.1	<.1
C31 ACETONE MG/L	<.1	<.1	<.1	<.1
C32 ETHYL ACETATE MG/L	<.1	<.1	<.1	<.1
C33 CELLOSOLVE ACETATE MG/L	<.1	<.1	<.1	<.1
C34 BUTYL CELLOSOLVE MG/L	<.1	<.1	<.1	<.1
C35 DITHANE MG/L	<.02	<.02	<.02	<.02
C36 LETHANE MG/L	<.001	<.001	<.001	<.001
C37 KARATHANE MG/L	<.01	<.01	<.01	<.01
C38 DNCP MG/L	<.01	<.01	<.01	<.01
C69 TOTAL XYLENES UG/L	NT	<1.0	NT	<1.0
C111 TOLUENE MG/L	<.1	<.1	<.1	<.1
CATEGORY 4 - OTHER PARAMETERS				
T1 ANTIMONY MG/L	<.15	<.15	<.15	<.15
T2 ARSENIC (GF) MG/L	.004	.016	<.001	.017
T3 BERYLLIUM MG/L	<.01	<.01	<.01	<.01
T4 CADMIUM (GF) MG/L	.0012	.003	<.01	.003
T5 CHROMIUM (GF) MG/L	<.002	.005	<.02	.004
T6 COPPER MG/L	.05	<.03	<.03	<.03
T7 LEAD (GF) MG/L	<.002	<.002	<.002	<.002
T8 MERCURY MG/L	<.0002	<.0002	<.0002	<.0002
T9 NICKEL MG/L	.1	<.1	<.1	<.1
T10 SELENIUM MG/L	<.001	<.001	<.001	<.001
T11 SILVER MG/L	<.001	<.001	<.02	<.001
T12 THALLIUM MG/L	<.3	<.3	<.3	<.3
T13 ZINC MG/L	<.01	.01	.02	.1

NT-NOT TESTED AS PART OF THIS STUDY

000817

000818

			LF-15-26 10/26/83	LF-15-26 04/25/84	LF-15-37 02/06/84	LF-15-37 04/24/84
			N313481 /N313486	N406447 /N406453	N401695 /N401703	N406380 /N406386
	CATEGORY 4 - OTHER PARAMETERS					
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	.002	.002	<.002	<.002
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V1	ACROLEIN	UG/L	<100.0	NT	NT	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	NT	NT
V3	BENZENE	UG/L	<10.0	<1.0	<.1	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	NT	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	4.9	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	NT	NT
V11	CHLOROFORM	UG/L	<10.0	<1.0	<1.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	NT	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	8.2	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<.1	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<1.0	1.0
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	2.9***	4.1	<1.0
V25	TETRACHLORETHYLENE **	UG/L	<10.0	<1.0	16.5	<1.0
V26	TOLUENE	UG/L	<10.0	<1.0	<.1	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<1.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL [illegible]TOL, PENNSYLVANIA — OCT 26, [illegible]
MONITORING WELL

LF-15-26	LF-15-26	LF-15-37	LF-15-37
10/26/83	04/25/84	02/06/84	04/24/84
N313481 /N313486	N406447 /N406453	N401695 /N401703	N406380 /N406386

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	12.0	<3.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

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000820

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			LF-16-37 02/06/84	LF-16-37 04/25/84	LF-17-18 02/06/84	LF-17-18 04/25/84
			N401696 /N401704	N406448 /N406454	N401697 /N401705	N406449 /N406455
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	23.0	273.0	22.0	164.0
C2	TOTAL ORGANIC HALIDE	UG/L	NT	<20.0	NT	<20.0
C3	BOD	MG/L	<3.0	270.0	32.0	4.0
C4	COD	MG/L	23.0	2400.0	32.0	260.0
C5	SPECIFIC CONDUCTANCE	UMHOS	202.0	193.0	371.0	355.0
C6	PH	SU	6.2	5.7	6.1	6.3
C7	TEMPERATURE	DEG. C	13.3	13.4	11.1	11.1
C135	TOTAL COLIFORM PER 100 ML NO.		120.0	NT	210.0	NT
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	<.05	<.05	<.05	.2
C9	BORON	MG/L	.14	.1	.09	.1
C10	CHLORIDE	MG/L	16.1	14.0	49.5	42.1
C11	FLUORIDE	MG/L	.03	.05	.04	.09
C12	IRON	MG/L	<.04	<.04	15.1	30.6
C14	NITRATE	MG/L	2.83	3.34	15.1	<.25
C15	PHOSPHATE	MG/L	<.01	<.01	.034	.38
C16	SULFATE	MG/L	41.7	33.8	47.0	47.5
C17	SODIUM	MG/L	15.4	10.6	23.8	18.0
C18	POTASSIUM	MG/L	3.71	2.0	2.85	2.61
C43	BARIUM (GF)	MG/L	.154	.227	.071	.118
C52	MANGANESE	MG/L	.051	.03	.641	.74
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	1.0	<1.0	2.0	<1.0
C20	SURFACTANTS (MBAS)	MG/L	.098	<.025	.063	.015
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

		LF-15-26 10/26/83	LF-15-26 04/25/84	LF-15-37 02/06/84	LF-15-37 04/24/84
		N313481 /N313486	N406447 /N406453	N401695 /N401703	N406380 /N406386
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	NT	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	14.0	31.0	<10.0	90.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<.2	<1.0 <10.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<.3	<1.0 <10.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<.2	<1.0 <10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	11.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

	LF-15-26 10/26/83	LF-15-26 04/25/84	LF-15-37 02/06/84	LF-15-37 04/24/84
	N313481 /N313486	N406447 /N406453	N401695 /N401703	N406380 /N406386

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	NT	<10.0	<10.0	NT

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL ... TOL, PENNSYLVANIA
MONITORING WELL

OCT 26, .

			LF-16-37 02/06/84	LF-16-37 04/25/84	LF-17-18 02/06/84	LF-17-18 04/25/84
			N401696 /N401704	N406448 /N406454	N401697 /N401705	N406449 /N406455
		CATEGORY 3 PARAMETERS				
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.04	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
		CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	<.001	.017	<.001	.018
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.01	.003	<.01	.002
T5	CHROMIUM (GF)	MG/L	<.02	.004	<.02	<.006
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	<.002	<.002	<.002
T8	MERCURY	MG/L	<.0002	<.0002	.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.02	<.001	<.02	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.14	.11	<.01	.03

NT-NOT TESTED AS PART OF THIS STUDY

000823

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000824

	LF-16-37 02/06/84	LF-16-37 04/25/84	LF-17-18 02/06/84	LF-17-18 04/25/84
	N401696 /N401704	N406448 /N406454	N401697 /N401705	N406449 /N406455

CATEGORY 4 - OTHER PARAMETERS

T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	.002	<.002	.002	<.002

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V3	BENZENE	UG/L	<.1	<1.0	<.1	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	NT	<4.0	NT	<4.0
V5	BROMOFORM	UG/L	<1.0	<1.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V11	CHLOROFORM	UG/L	<1.0	<1.0	1.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<.1	<1.0	<.1	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	4.4	<1.0	2.5	2.4***
V25	TETRACHLORETHYLENE **	UG/L	<1.0	<1.0	<1.0	<1.0
V26	TOLUENE	UG/L	<.1	<1.0	<.1	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL _STOL, PENNSYLVANIA OCT 26, . .4
MONITORING :ELL

	LF-16-37 02/06/84	LF-16-37 04/25/84	LF-17-18 02/06/84	LF-17-18 04/25/84
	N401696 /N401704	N406448 /N406454	N401697 /N401705	N406449 /N406455
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B2 ACENAPHTHYLENE UG/L	<10.0	<10.0	<10.0	<10.0
B3 ANTHRACENE UG/L	<10.0	<10.0	<10.0	<10.0
B4 BENZIDINE UG/L	<10.0	<10.0	<10.0	<10.0
B5 BENZO (A) ANTHRACENE UG/L	<10.0	<10.0	<10.0	<10.0
B6 BENZO (A) PYRENE UG/L	<10.0	<10.0	<10.0	<10.0
B8 BENZO (GHI) PERYLENE UG/L	<25.0	<25.0	<25.0	<25.0
B9 BENZO (K) FLUORANTHENE UG/L	<10.0	<10.0	<10.0	<10.0
B10 BIS (2-CHLOROETHOXY) METHANE UG/L	<10.0	<10.0	<10.0	<10.0
B11 BIS (2-CHLOROETHYL) ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B12 BIS(2-CHLOROISOPROPYL) ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B13 BIS (2-ETHYLHEXYL) PHTHALATE UG/L	<10.0	76.0	<10.0	58.0
B14 4-BROMOPHENYL PHENYL ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B15 BUTYL BENZYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B16 2-CHORONAPHTHALENE UG/L	<10.0	<10.0	<10.0	<10.0
B17 4-CHOROPHENYL PHENYL ETHER UG/L	<10.0	<10.0	<10.0	<10.0
B18 CHRYSENE UG/L	<10.0	<10.0	<10.0	<10.0
B19 DIBENZO (A,H) ANTHRACENE UG/L	<25.0	<25.0	<25.0	<25.0
B20 1,2-DICHLOROBENZENE UG/L	<.2	<10.0	<.2	<1.0
		<1.0		<10.0
B21 1,3-DICHLOROBENZENE UG/L	<.3	<10.0	<.3	<1.0
		<1.0		<10.0
B22 1,4-DICHLOROBENZENE UG/L	<.2	<10.0	<.2	<1.0
		<1.0		<10.0
B23 3,3'-DICHLOROBENZIDINE UG/L	<10.0	<10.0	<10.0	<10.0
B24 DIETHYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B25 DIMETHYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B26 DI-N-BUTYL PHTHALATE UG/L	<10.0	<10.0	<10.0	<10.0
B27 2,4-DINITROTOLUENE UG/L	<10.0	<10.0	<10.0	<10.0
B28 2,6-DINITROTOLUENE UG/L	<10.0	<10.0	<10.0	<10.0
B29 DI-N-OCTYL PHTHALATE UG/L	<10.0	<10.0	<10.0	11.0
B30 1,2-DIPHENYLHYDRAZINE UG/L	<10.0	<10.0	<10.0	<10.0
B31 FLUORANTHENE UG/L	<10.0	<10.0	<10.0	<10.0
B32 FLUORENE UG/L	<10.0	<10.0	<10.0	<10.0
B33 HEXACHLOROBENZENE UG/L	<10.0	<10.0	<10.0	<10.0
B34 HEXACHLOROBUTADIENE UG/L	<10.0	<10.0	<10.0	<10.0
B35 HEXACHLOROCYCLOPENTADIENE UG/L	<10.0	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT. 26, 1984

	LF-16-37 02/06/84	LF-16-37 04/25/84	LF-17-18 02/06/84	LF-17-18 04/25/84
	N401696 /N401704	N406448 /N406454	N401697 /N401705	N406449 /N406455
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B36 HEXACHLOROETHANE UG/L	<10.0	<10.0	<10.0	<10.0
B37 INDENO (1,2,3-CD) PYRENE UG/L	<25.0	<25.0	<25.0	<25.0
B38 ISOPHORONE UG/L	<10.0	<10.0	<10.0	<10.0
B39 NAPHTHALENE UG/L	<10.0	<10.0	<10.0	<10.0
B40 NITROBENZENE UG/L	<10.0	<10.0	<10.0	<10.0
B41 N-NITROSODIMETHYLAMINE UG/L	<10.0	<10.0	<10.0	<10.0
B42 N-NITROSODI-N-PROPYLAMINE UG/L	<10.0	<10.0	<10.0	<10.0
B43 N-NITROSODIPHENYLAMINE UG/L	<10.0	<10.0	<10.0	<10.0
B44 PHENANTHRENE UG/L	<10.0	<10.0	<10.0	<10.0
B45 PYRENE UG/L	<10.0	<10.0	<10.0	<10.0
B46 1,2,4-TRICHLOROBENZENE UG/L	<10.0	<10.0	<10.0	<10.0
B47 BENZO(B) FLUORANTHENE UG/L	<10.0	<10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1 2-CHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A2 2,4-DICHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A3 2,4-DIMETHYLPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A4 4,6-DINITRO-O-CRESOL UG/L	<250.0	<250.0	<250.0	<250.0
A5 2,4-DINITROPHENOL UG/L	<250.0	<250.0	<250.0	<250.0
A6 2-NITROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A7 4-NITROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A8 P-CHLORO-M-CRESOL UG/L	<25.0	<25.0	<25.0	<25.0
A9 PENTACHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A10 PHENOL UG/L	<25.0	<25.0	<25.0	<25.0
A11 2,4,6-TRICHLOROPHENOL UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1 ALDRIN UG/L	<10.0	<10.0	<10.0	<10.0
P2 ALPHA-BHC UG/L	<10.0	<10.0	<10.0	<10.0
P3 BETA-BHC UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL - ...TOL, PENNSYLVANIA — OCT 26, ...
MONITORING WELL

	LF-16-37 02/06/84	LF-16-37 04/25/84	LF-17-18 02/06/84	LF-17-18 04/25/84
	N401696 /N401704	N406448 /N406454	N401697 /N401705	N406449 /N406455
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P4 GAMMA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P5 DELTA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P6 CHLORDANE	UG/L <10.0	<10.0	<10.0	<10.0
P7 4,4'-DDT	UG/L <10.0	<10.0	<10.0	<10.0
P8 4,4'-DDE	UG/L <10.0	<10.0	<10.0	<10.0
P9 4,4'-DDD	UG/L <10.0	<10.0	<10.0	<10.0
P10 DIELDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P11 ALPHA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P12 BETA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P13 ENDOSULFAN SULFATE	UG/L <10.0	<10.0	<10.0	<10.0
P14 ENDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P15 ENDRIN ALDEHYDE	UG/L <10.0	<10.0	<10.0	<10.0
P16 HEPTACHLOR	UG/L <10.0	<10.0	<10.0	<10.0
P17 HEPTACHLOR EPOXIDE	UG/L <10.0	<10.0	<10.0	<10.0
P18 PCB-1242	UG/L <10.0	<10.0	<10.0	<10.0
P19 PCB-1254	UG/L <10.0	<10.0	NT	<10.0
P20 PCB-1221	UG/L <10.0	<10.0	<10.0	<10.0
P21 PCB-1232	UG/L <10.0	<10.0	<10.0	<10.0
P22 PCB-1248	UG/L <10.0	<10.0	<10.0	<10.0
P23 PCB-1260	UG/L <10.0	<10.0	<10.0	<10.0
P24 PCB-1016	UG/L <10.0	<10.0	<10.0	<10.0
P25 TOXAPHENE	UG/L <10.0	<10.0	<10.0	<10.0
P26 2,4-D	UG/L <1.0	<1.0	<1.0	<1.0
P27 2,4,5-TP	UG/L <.5	<.5	<.5	<.5
CATEGORY 5 PARAMETERS				
C53 GROSS A RADIOACTIVITY	PC I/L <2.0	<2.0	10.0	4.0
C55 GROSS B RADIOACTIVITY	PC I/L 3.0	<3.0	13.0	<3.0
C57 TOTAL RADIUM	PC I/L <1.0	<1.0	<1.0	7.0

NT-NOT TESTED AS PART OF THIS STUDY

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

		LF-18-15 02/07/84	LF-18-15 04/25/84	LF-19-18 02/07/84	LF-19-18 04/25/84
		N401702 /N401710	N406450 /N406456	N401701 /N401709	N406451 /N406457
	CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON MG/L	24.0	5.0	8.0	10.0
C2	TOTAL ORGANIC HALIDE UG/L	NT	<20.0	NT	20.0
C3	BOD MG/L	5.0	3.0	6.0	<3.0
C4	COD MG/L	24.0	28.0	8.0	32.0
C5	SPECIFIC CONDUCTANCE UMHOS	263.0	275.0	203.0	198.0
C6	PH SU	5.5	5.5	6.1	6.0
C7	TEMPERATURE DEG. C	13.3	11.7	13.3	11.1
C135	TOTAL COLIFORM PER 100 ML NO.	23.0	NT	43.0	NT
	CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA MG/L	<.05	<.05	.27	.7
C9	BORON MG/L	NT	.1	.11	.1
C10	CHLORIDE MG/L	36.8	24.3	17.0	15.9
C11	FLUORIDE MG/L	.04	.09	.03	.06
C12	IRON MG/L	<.04	.05	.73	2.0
C14	NITRATE MG/L	2.86	2.96	2.68	2.23
C15	PHOSPHATE MG/L	NT	.03	<.01	.11
C16	SULFATE MG/L	46.5	42.9	37.7	35.0
C17	SODIUM MG/L	20.5	17.2	17.1	12.0
C18	POTASSIUM MG/L	2.27	2.47	1.88	1.81
C43	BARIUM (GF) MG/L	.163	.079	.065	.058
C52	MANGANESE MG/L	.188	.41	.944	1.26
C60	SULFIDE AS S MG/L	<1.0	<1.0	<1.0	<1.0
C61	TIN MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE MG/L	2.0	<1.0	3.0	2.0
C20	SURFACTANTS (MBAS) MG/L	.063	<.025	.036	.063
C21	METHYL ETHYL KETONE MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL MG/L	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

			LF-18-15 02/07/84	LF-18-15 04/25/84	LF-19-18 02/07/84	LF-19-18 04/25/84
			N401702 /N401710	N406450 /N406456	N401701 /N401709	N406451 /N406457
			CATEGORY 3 PARAMETERS			
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	<.1	<.1	<.1	<.1
			CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.001	<.016	.001	.019
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.01	.0007	<.01	.001
T5	CHROMIUM (GF)	MG/L	<.02	.003	<.02	.004
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	.012	<.002	.003	<.002
T8	MERCURY	MG/L	<.0002	<.0002	<.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.02	<.001	<.02	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.15	.02	.01	.02

NT-NOT TESTED AS PART OF THIS STUDY

000829

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000830

			LF-18-15 02/07/84	LF-18-15 04/25/84	LF-19-18 02/07/84	LF-19-18 04/25/84
			N401702 /N401710	N406450 /N406456	N401701 /N401709	N406451 /N406457
	CATEGORY 4 - OTHER PARAMETERS					
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	.002	<.002	.006	<.002
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V3	BENZENE	UG/L	<.1	<1.0	<.1	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	NT	<4.0	NT	<4.0
V5	BROMOFORM	UG/L	<1.0	<1.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<.1	<1.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V11	CHLOROFORM	UG/L	<1.0	1.1***	<1.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	NT	<1.0	NT	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<.1	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<.1	<1.0	<.1	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	2.0	7.8***	3.1	11.5***
V25	TETRACHLORETHYLENE **	UG/L	<1.0	<1.0	<1.0	<1.0
V26	TOLUENE	UG/L	<.1	<1.0	<.1	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

	LF-18-15 02/07/84	LF-18-15 04/25/84	LF-19-18 02/07/84	LF-19-18 04/25/84
	N401702 /N401710	N406450 /N406456	N401701 /N401709	N406451 /N406457

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	19.0	<10.0	100.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<.2	<1.0	<.2	<1.0
				<10.0		<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<.3	<1.0	<.3	<1.0
				<10.0		<10.0
B22	1,4-DICHLOROBENZENE	UG/L	<.2	<1.0	<.2	<1.0
				<10.0		<10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0

008831

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

			LF-18-15 02/07/84	LF-18-15 04/25/84	LF-19-18 02/07/84	LF-19-18 04/25/84
			N401702 /N401710	N406450 /N406456	N401701 /N401709	N406451 /N406457
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS						
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS						
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS						
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL . ...STOL, PENNSYLVANIA OCT 26,
MONITORING WELL

	LF-18-15 02/07/84	LF-18-15 04/25/84	LF-19-18 02/07/84	LF-19-18 04/25/84
	N401702 /N401710	N406450 /N406456	N401701 /N401709	N406451 /N406457
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P4 GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5 DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6 CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7 4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8 4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9 4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10 DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11 ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12 BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13 ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14 ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15 ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16 HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17 HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18 PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19 PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20 PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21 PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22 PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23 PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24 PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25 TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26 2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27 2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
CATEGORY 5 PARAMETERS				
C53 GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55 GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0	<3.0	<3.0
C57 TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

000833

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000834

			LF-20-22 02/07/84	LF-20-22 04/25/84	/	/
			N401699 /N401707	N406452 /N406458		
			CATEGORY 1 PARAMETERS			
C1	TOTAL ORGANIC CARBON	MG/L	31.0	<1.0		
C2	TOTAL ORGANIC HALIDE	UG/L	NT	20.0		
C3	BOD	MG/L	102.0	<3.0		
C4	COD	MG/L	175.0	<4.0		
C5	SPECIFIC CONDUCTANCE	UMHOS	179.0	119.0		
C6	PH	SU	5.6	5.6		
C7	TEMPERATURE	DEG. C	13.9	10.0		
C135	TOTAL COLIFORM PER 100 ML NO.		240.0	NT		
			CATEGORY 2 PARAMETERS			
C8	NITROGEN, AMMONIA	MG/L	<.05	<.05		
C9	BORON	MG/L	.14	.1		
C10	CHLORIDE	MG/L	11.5	6.5		
C11	FLUORIDE	MG/L	.05	.08		
C12	IRON	MG/L	.28	.24		
C14	NITRATE	MG/L	3.55	1.51		
C15	PHOSPHATE	MG/L	<.01	.05		
C16	SULFATE	MG/L	32.6	31.5		
C17	SODIUM	MG/L	8.02	2.39		
C18	POTASSIUM	MG/L	2.53	1.1		
C43	BARIUM (GF)	MG/L	.052	.051		
C52	MANGANESE	MG/L	.022	.12		
C60	SULFIDE AS S	MG/L	<1.0	<1.0		
C61	TIN	MG/L	<1.0	<1.0		
			CATEGORY 3 PARAMETERS			
C19	OIL AND GREASE	MG/L	3.0	1.0		
C20	SURFACTANTS (MBAS)	MG/L	<.007	.04		
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1		
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1		

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL B[illegible]OL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1

			LF-20-22 02/07/84	LF-20-22 04/25/84	/	/
			N401699 /N401707	N406452 /N406458		
	CATEGORY 3 PARAMETERS					
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1		
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1		
C25	ETHANOL	MG/L	<.1	<.1		
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0		
C27	METHYL METHACRYLATE	MG/L	<.1	<.1		
C28	ETHYL ACRYLATE	MG/L	<.1	<.1		
C29	BUTYL ACRYLATE	MG/L	<.1	<.1		
C30	STYRENE	MG/L	<.1	<.1		
C31	ACETONE	MG/L	<.1	<.1		
C32	ETHYL ACETATE	MG/L	<.1	<.1		
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1		
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1		
C35	DITHANE	MG/L	<.02	<.02		
C36	LETHANE	MG/L	<.001	<.001		
C37	KARATHANE	MG/L	<.01	<.01		
C38	DNCP	MG/L	<.01	<.01		
C69	TOTAL XYLENES	UG/L	NT	<1.0		
C111	TOLUENE	MG/L	NT	<.1		
	CATEGORY 4 - OTHER PARAMETERS					
T1	ANTIMONY	MG/L	NT	<.15		
T2	ARSENIC (GF)	MG/L	<.001	.017		
T3	BERYLLIUM	MG/L	<.01	<.01		
T4	CADMIUM (GF)	MG/L	<.01	.001		
T5	CHROMIUM (GF)	MG/L	<.02	.005		
T6	COPPER	MG/L	<.03	<.03		
T7	LEAD (GF)	MG/L	.005	.003		
T8	MERCURY	MG/L	<.0002	<.0002		
T9	NICKEL	MG/L	<.1	<.1		
T10	SELENIUM	MG/L	<.001	<.001		
T11	SILVER	MG/L	<.02	<.001		
T12	THALLIUM	MG/L	<.3	<.3		
T13	ZINC	MG/L	<.01	.03		

NT-NOT TESTED AS PART OF THIS STUDY

000835

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000836

	LF-20-22	LF-20-22		
	02/07/84	04/25/84		
	N401699 /N401707	N406452 /N406458	/	/

CATEGORY 4 - OTHER PARAMETERS

T14	CYANIDE	MG/L	<.005	<.005
T15	PHENOLS	MG/L	.075	<.002

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V3	BENZENE	UG/L	<.1	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	NT	<4.0
V5	BROMOFORM	UG/L	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<1.0
V11	CHLOROFORM	UG/L	2.3	1.7***
V12	BROMODICHLOROMETHANE	UG/L	NT	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<.1	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	7.6	9.5***
V25	TETRACHLORETHYLENE **	UG/L	<1.0	<1.0
V26	TOLUENE	UG/L	<.1	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<.1	1.1
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLUROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

ROHM AND HAAS LANDFILL ,TOL, PENNSYLVANIA OCT 26,
MONITORING WELL

	LF-20-22	LF-20-22	
	02/07/84	04/25/84	
	N401699 /N401707	N406452 /N406458	/ /

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	16.0	13.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<.2	<10.0
				<.1
B21	1,3-DICHLOROBENZENE	UG/L	<.3	<10.0
				<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<.2	<10.0
				<1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0

000837

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
MONITORING WELL

OCT 26, 1984

000838

	LF-20-22	LF-20-22		
	02/07/84	04/25/84		
	N401699 /N401707	N406452 /N406458	/	/

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P1	ALDRIN	UG/L	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0

ROHM AND HAAS LANDFILL ,ISTOL, PENNSYLVANIA — OCT 26, ,84
MONITORING WELL

	LF-20-22 02/07/84	LF-20-22 04/25/84		
	N401699 /N401707	N406452 /N406458	/	/

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P4	GAMMA-BHC	UG/L	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0

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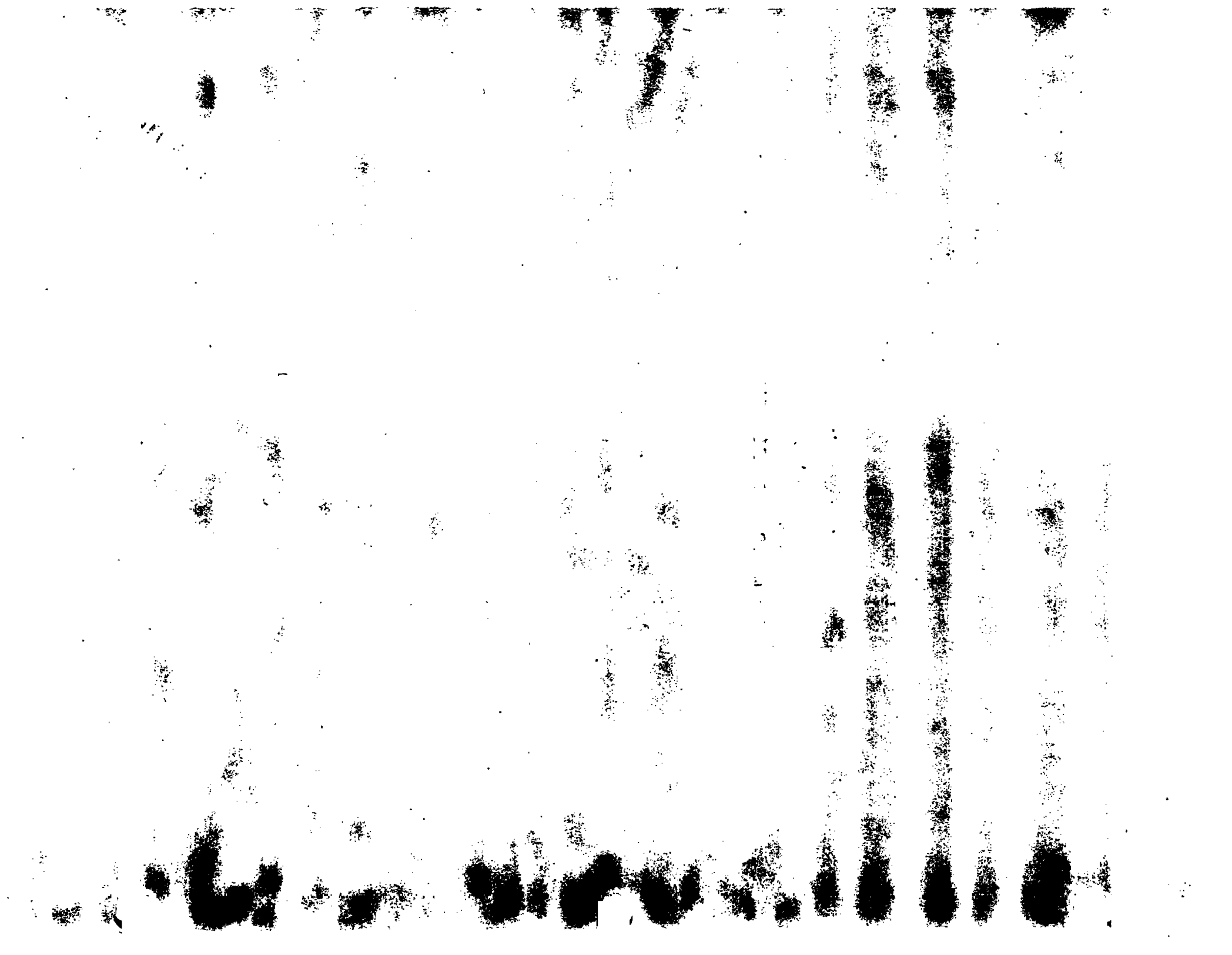
APPENDIX G

SAMPLING LOCATION IDENTIFICATION KEY



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APPENDIX G

SAMPLING LOCATION IDENTIFICATION KEY

1.0 INTRODUCTION

The identifications of the monitoring wells and surface water and sediment sampling locations were revised prior to the resampling. This revision was necessary to make the sampling location identifications more systematic and descriptive and to allow the orderly inclusion of additional sampling locations.

2.0 SAMPLING LOCATION IDENTIFICATION SYSTEM

2.1 Monitoring Wells

Monitoring wells are identified with the system where:

- The first set of letters indicate if the well is in the "CR" or "LF" series
- The first set of numbers indicates the well cluster identification number
- The second set of numbers indicates the well bottom depth (from grade)

See Table G1 for monitoring well identifications.

2.2 Surface Water and Sediment Sampling Locations

Surface water and sediment sampling stations are identified with the system where:

- The first set of digits (letters) indicates which stream segment is being sampled, as follows:

  DRD = Delaware River (downstream)
  DRU = Delaware River (upstream)
  HRE = Hog Run Creek (east branch)
  HRW = Hog Run Creek (west branch)
  HRM = Hog Run Creek (main stem)
  UNB = Unnamed branch
  HRT = Trench along north side of landfill
  TWB = Treated Water Basin outflow

000840

- The second set of digits (numbers) indicates the distance along the stream from a particular reference point, as follows:

  DRD and DRU - distance down (DRD) or up river (DRU) from the confluence of Hog Run Creek and the Delaware River

  HRE, HRW, HRM - distance upstream along Hog Run Creek from the confluence of Hog Run Creek and the Delaware River

  UNB - distance downstream along the unnamed branch from the drainage divide between the unnamed branch and the west branch of Hog Run Creek

See Table G2 for the surface water and sediment sampling locations.

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TABLE G-1

MONITORING WELL IDENTIFICATION KEY

New Designation	Previous Designation	New Designation	Previous Designation
CR-1-22	CR-1B	LF-1-25	LF-1
CR-1-50	CR-1A	LF-2-12	LF-2
CR-2-27	CR-2	LF-3-26	LF-3B
CR-3-22	CR-3B	LF-3-50	LF-3A
CR-3-45	CR-3A	LF-4-21	LF-4
CR-3-70	CR-3C	LF-5-25	LF-5
CR-4-20	CR-4B	LF-6-26	LF-6B
CR-4-50	CR-4A	LF-6-55	LF-6A
CR-4-90	CR-4C	LF-7-30	LF-7
CR-5-27	CR-5	LF-8-18	LF-8
CR-6-20	CR-6	LF-9-20	LF-9
CR-7-20	CR-7	LF-10-20	LF-10
CR-8-18	CR-8	LF-11-20	LF-11
CR-9-25	CR-9	LF-12-13	LF-12
CR-10-27	CR-10	LF-13-18	LF-13B
CR-11-16	CR-11	LF-13-43	LF-13A
CR-12-20	CR-12B	LF-14-20	LF-14
CR-12-40	CR-12A	LF-15-26	LF-15B
CR-13-18	CR-13B	LF-15-37	LF-15A
CR-13-32	CR-13A	LF-16-37	LF-16
CR-14-23	CR-14	LF-17-18	LF-17
CR-15-13	CR-15	LF-18-15	LF-18
CR-16-28	CR-16	LF-19-18	LF-19
CR-17-29	CR-17	LF-20-22	LF-20
CR-18-55	CR-18		

000842

TABLE G-1
MONITORING WELL IDENTIFICATION KEY

New Designation	Previous Designation	New Designation	Previous Designation
CR-19-15	CR-19B	Piezometers	
CR-19-17	CR-19A		
CR-20-22	CR-20B	P-1	P-1
CR-20-38	CR-20A	P-2	P-2
CR-21-17	CR-21B	P-3	P-3
CR-21-27	CR-21A	P-4	P-4
CR-21-38	CR-21C	P-5	P-5
CR-21-18	CR-22	P-6	P-6
		P-7	P-7

Source: BCM Eastern Inc. (Project No. 00-4061-06)

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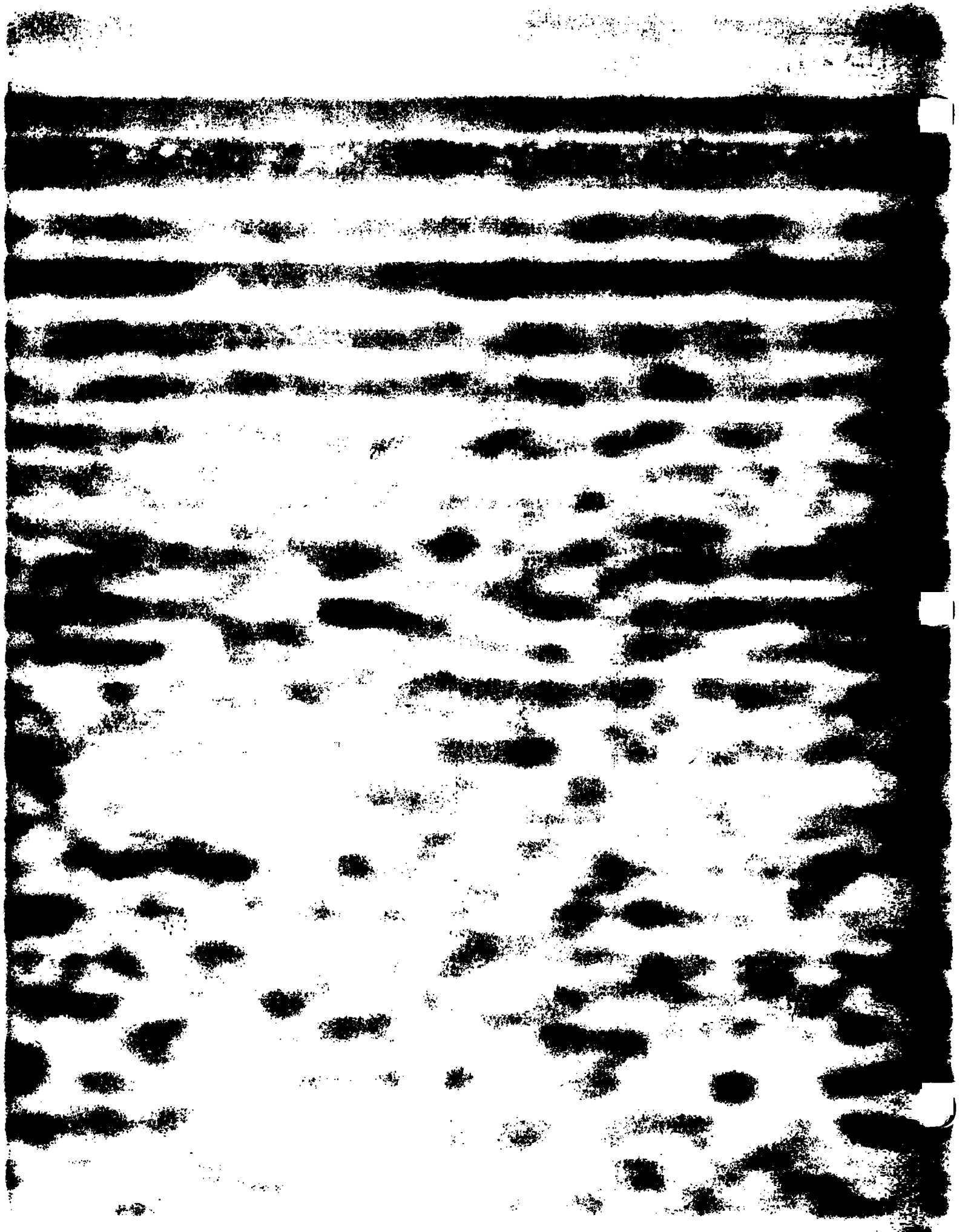
APPENDIX F3

SURFACE WATER RESULTS



ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

			DRU-1.7 11/23/83 N315035 /N315041	DRU-1.7 05/21/84 N408032 /N408037	DRU-9.5 11/23/83 N315034 /N315040	DRU-9.5 05/21/84 N408031 /N408036
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	17.0	6.0	23.0	6.0
C2	TOTAL ORGANIC HALIDE	UG/L	66.3	<20.0	48.6	26.0
C3	BOD	MG/L	10.0	8.0	<5.0	<6.0
C4	COD	MG/L	20.0	16.0	16.0	16.0
C5	SPECIFIC CONDUCTANCE	UMHOS	197.0	137.0	192.0	134.0
C6	PH	SU	7.0	7.2	7.0	7.2
C7	TEMPERATURE	DEG. C	8.8	16.1	7.7	15.0
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	.2	.16	.08	.07
C9	BORON	MG/L	.07	.1	.05	.1
C10	CHLORIDE	MG/L	15.1	9.4	11.4	8.4
C11	FLUORIDE	MG/L	.175	.1	.126	.1
C12	IRON	MG/L	.15	.08	.11	.04
C14	NITRATE	MG/L	1.43	2.0	1.5	.5
C15	PHOSPHATE	MG/L	.06	.02	.08	<.01
C16	SULFATE	MG/L	25.53	14.6	24.64	38.4
C17	SODIUM	MG/L	10.9	6.36	9.24	5.26
C18	POTASSIUM	MG/L	2.85	1.24	2.66	1.13
C43	BARIUM (GF)	MG/L	.02	.019	.021	.009
C52	MANGANESE	MG/L	.04	.05	<.02	<.02
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0
C61	TIN	MG/L	<.76	<1.0	<.76	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	4.0	1.0	4.0	2.0
C20	SURFACTANTS (MBAS)	MG/L	.447	.17	.433	.1
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

000844

000845

RUHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

			DRU-1.7 11/23/83	DRU-1.7 05/21/84	DRU-9.5 11/23/83	DRU-9.5 05/21/84
			N315035 /N315041	N408032 /N408037	N315034 /N315040	N408031 /N408036
			CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	NT	<.02	NT	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
			CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.17	<.15	<.17	<.15
T2	ARSENIC (GF)	MG/L	.006	.003	.006	.004
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0006	<.0005	.0006	<.0005
T5	CHROMIUM (GF)	MG/L	.005	<.002	.005	<.002
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	.008	<.002	.007
T8	MERCURY	MG/L	<.0004	.0013	.0005	.0007
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	<.01	.01	.02	<.01
T14	CYANIDE	MG/L	.01	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

918000

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

		DRU-1.7 11/23/83	DRU-1.7 05/21/84	DRU-9.5 11/23/83	DRU-9.5 05/21/84
		N315035 /N315041	N408032 /N408037	N315034 /N315040	N408031 /N408036
	CATEGORY 4 - OTHER PARAMETERS				
T15	PHENOLS MG/L	.006	<.002	.003	<.002
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE UG/L	<100.0	NT	<100.0	NT
V3	BENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM UG/L	<10.0	1.0	<10.0	<1.0
V12	BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE * UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V25	TETRACHLOROETHYLENE ** UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE UG/L	<10.0	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V31	TRICHLOROFLUOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

SCANNED

000847

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

		DRU-1.7 11/23/83	DNU-1.7 05/21/84	DRU-9.5 11/23/83	DRU-9.5 05/21/84
		N315035 /N315041	N408032 /N408037	N315034 /N315040	N408031 /N408036
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B2	ACENAPHTHYLENE	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	<10.0	<10.0	<10.0	<10.0
			<1.0		<1.0
B21	1,3-DICHLOROBENZENE	<10.0	<10.0	<10.0	<10.0
			<1.0		<1.0
B22	1,4-DICHLOROBENZENE	<10.0	<10.0	<10.0	<10.0
			<1.0		<1.0
B23	3,3'-DICHLOROBENZIDINE	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

			DRU-1.7 11/23/83	DRU-1.7 05/21/84	DRU-9.5 11/23/83	DRU-9.5 05/21/84
			N315035 /N315041	N408032 /N408037	N315034 /N315040	N408031 /N408036
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS						
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS						
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS						
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

000848

000849

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

		DRU-1.7 11/23/83	DRU-1.7 05/21/84	DRU-9.5 11/23/83	DRU-9.5 05/21/84
		N315035 /N315041	N408032 /N408037	N315034 /N315040	N408031 /N408036
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P3	BETA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L <10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L <10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L <10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L <10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L <10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L <10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L <10.0	<10.0	<10.0	NT
P14	ENDRIN	UG/L <10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L <10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L <10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L <10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L <10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L <10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L <10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L <10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L <10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L <10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L <10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L <10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L <1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L <.5	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS				
C53	GROSS A RADIOACTIVITY	PC I/L <2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L 13.0	<3.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L <1.0	<1.0	<1.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

			DRD-1.5 11/23/83	DRD-1.5 05/21/84	HRM-0210 11/22/83	HRM-0210 05/21/84
			N315036 /N315042	N408033 /N408038	N314934 /N314947	N408035 /N408040
		CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	8.0	7.0	45.0	35.0
C2	TOTAL ORGANIC HALIDE	UG/L	31.1	<20.0	58.1	30.0
C3	BOD	MG/L	<3.0	6.0	<3.0	12.0
C4	COD	MG/L	12.0	16.0	66.0	71.0
C5	SPECIFIC CONDUCTANCE	UMHOS	218.0	139.0	799.0	625.0
C6	PH	SU	7.0	7.3	8.1	8.2
C7	TEMPERATURE	DEG. C	8.9	15.0	11.7	27.8
		CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	.26	.2	7.0	3.95
C9	BORON	MG/L	.07	<.1	.08	.1
C10	CHLORIDE	MG/L	15.3	9.8	103.0	91.9
C11	FLUORIDE	MG/L	.175	<.1	.19	.1
C12	IRON	MG/L	.18	.04	.54	.48
C14	NITRATE	MG/L	1.34	.5	1.38	1.2
C15	PHOSPHATE	MG/L	.11	.05	1.7	1.52
C16	SULFATE	MG/L	.9	14.6	113.0	68.7
C17	SODIUM	MG/L	12.6	6.36	105.0	86.7
C18	POTASSIUM	MG/L	2.66	1.16	5.07	4.6
C43	BARIUM (GF)	MG/L	.11	.007	.054	.169
C52	MANGANESE	MG/L	.04	.06	.74	.53
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<2.0
C61	TIN	MG/L	<.76	<1.0	<.76	<1.0
		CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	4.0	1.0	2.0	<1.0
C20	SURFACTANTS (MBAS)	MG/L	.394	.15	.1	.74
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

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8

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

	DRD-1.5 11/23/83	DRD-1.5 05/21/84	HRM-0210 11/22/83	HRM-0210 05/21/84
	N315036 /N315042	N408033 /N408038	N314934 /N314947	N408035 /N408040
CATEGORY 3 PARAMETERS				
C24 ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25 ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26 BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27 METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28 ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29 BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30 STYRENE	MG/L	<.1	<.1	<.1	<.1
C31 ACETONE	MG/L	<.1	<.1	<.1	<.1
C32 ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33 CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34 BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35 DITHANE	MG/L	NT	<.02	NT	<.02
C36 LETHANE	MG/L	<.001	<.001	<.001	<.002
C37 KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38 DNCP	MG/L	<.01	<.01	<.01	<.01
C69 TOTAL XYLENES	UG/L	NT	9.1	NT	<1.0
C111 TOLUENE	MG/L	<.1	<.1	NT	<.1
CATEGORY 4 - OTHER PARAMETERS				
T1 ANTIMONY	MG/L	<.17	<.15	<.17	<.15
T2 ARSENIC (GF)	MG/L	.006	.004	.004	.004
T3 BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4 CADMIUM (GF)	MG/L	.0008	<.0005	.0006	<.0005
T5 CHROMIUM (GF)	MG/L	.006	.002	<.002	<.002
T6 COPPER	MG/L	<.03	<.03	<.03	<.03
T7 LEAD (GF)	MG/L	<.002	.008	<.002	.006
T8 MERCURY	MG/L	<.0004	.0011	<.0002	.0008
T9 NICKEL	MG/L	<.1	<.1	<.1	<.1
T10 SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11 SILVER	MG/L	<.001	<.001	.001	<.001
T12 THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13 ZINC	MG/L	.11	.02	.02	.01
T14 CYANIDE	MG/L	.01	<.005	.01	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SURFACE WATER

	DRD-1.5 11/23/83	DRD-1.5 05/21/84	HRM-0210 11/22/83	HRM-0210 05/21/84
	N315036 /N315042	N408033 /N408038	N314934 /N314947	N408035 /N408040
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS MG/L	.004	<.002	.007	.007
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1 ACROLEIN UG/L	<100.0	NT	<100.0	NT
V2 ACRYLONITRILE UG/L	<100.0	NT	<100.0	NT
V3 BENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V4 BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	<10.0	<4.0
V5 BROMOFORM UG/L	<10.0	<1.0	<10.0	<1.0
V6 CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V7 CHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V9 CHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V10 2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	<10.0	NT
V11 CHLOROFORM UG/L	<10.0	<1.0	<10.0	1.0
V12 BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V13 DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	<10.0	NT
V14 1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V15 1,2-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V16 1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V17 1,2-DICHLOROPROPANE UG/L	<10.0	<1.0	<10.0	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE * UG/L	<10.0	<1.0	<10.0	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V20 ETHYLBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V21 BROMOMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V22 CHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V23 METHYLENE CHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V25 TETRACHLOROETHYLENE ** UG/L	<10.0	<1.0	<10.0	<1.0
V26 TOLUENE UG/L	<10.0	<1.0	<10.0	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V28 1,1,1-TRICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V30 TRICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V31 TRICHLOROFLUOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V32 VINYL CHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

008052

000853

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

		DRD-1.5 11/23/83	DRD-1.5 05/21/84	HRM-0210 11/22/83	HRM-0210 05/21/84
		N315036 /N315042	N408033 /N408038	N314934 /N314947	N408035 /N408040
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B2	ACENAPHTHYLENE	UG/L <10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L <10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L <10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L <10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L <10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L <10.0	NT	NT	NT
B8	BENZO (GHI) PERYLENE	UG/L <25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L <10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L <10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L <10.0	<10.0	21.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L <10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L <10.0	15.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L <10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L <10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L <10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L <10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L <10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L <25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L <10.0	<10.0	<10.0	<10.0
			<1.0		<1.0
B21	1,3-DICHLOROBENZENE	UG/L <10.0	<10.0	<10.0	<10.0
			4.7		<1.0
B22	1,4-DICHLOROBENZENE	UG/L <10.0	<10.0	<10.0	<10.0
			<1.0		<1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L <10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L <10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L <10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L <10.0	<10.0	11.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L <10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L <10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L <10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L <10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L <10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L <10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L <10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L <10.0	<10.0	<10.0	<10.0

NT=NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

		DRD-1.5 11/23/83	DRD-1.5 05/21/84	HRM-0210 11/22/83	HRM-0210 05/21/84
		N315036 /N315042	N408033 /N408038	N314934 /N314947	N408035 /N408040
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SURFACE WATER

	DRD-1.5 11/23/83	DRD-1.5 05/21/84	HRM-0210 11/22/83	HRM-0210 05/21/84
	N315036 /N315042	N408033 /N408038	N314934 /N314947	N408035 /N408040
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P3 BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4 GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5 DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6 CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7 4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8 4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9 4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10 DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11 ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12 BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13 ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14 ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15 ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16 HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17 HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18 PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19 PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20 PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21 PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22 PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23 PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24 PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25 TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26 2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27 2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
CATEGORY 5 PARAMETERS				
C53 GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55 GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0	<1.0	<3.0
C57 TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SURFACE WATER DATA

			HRM-0560 05/22/84	HRM-1110 11/22/83	HRM-1110 05/22/84
			N408161 /N408166	N314933 /N314946	N408123 /N408131 /
	CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	4.0	36.0	17.0
C2	TOTAL ORGANIC HALIDE	UG/L	59.0	24.5	<20.0
C3	BOD	MG/L	<6.0	<3.0	8.0
C4	COD	MG/L	70.0	26.0	32.0
C5	SPECIFIC CONDUCTANCE	UMHOS	713.0	354.0	306.0
C6	PH	SU	8.4	6.7	7.1
C7	TEMPERATURE	DEG. C	28.3	13.3	27.2
	CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	2.3	3.6	4.35
C9	BORON	MG/L	<.1	.17	.2
C10	CHLORIDE	MG/L	96.4	33.3	26.2
C11	FLUORIDE	MG/L	.1	.2	<.1
C12	IRON	MG/L	.78	.81	.37
C14	NITRATE	MG/L	1.8	1.57	1.5
C15	PHOSPHATE	MG/L	1.7	.02	.11
C16	SULFATE	MG/L	76.9	49.26	38.4
C17	SODIUM	MG/L	88.0	28.6	25.4
C18	POTASSIUM	MG/L	4.3	5.81	3.66
C43	BARIUM (GF)	MG/L	.021	.07	.085
C52	MANGANESE	MG/L	.6	.64	.55
C60	SULFIDE AS S	MG/L	<2.0	<1.0	<1.0
C61	TIN	MG/L	<1.0	<.76	<1.0
	CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	3.0	3.0	2.0
C20	SURFACTANTS (MBAS)	MG/L	.68	<.034	.23
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SURFACE WATER DATA

		HRM-0560	HRM-1110	HRM-1110
		05/22/84	11/22/83	05/22/84
		N408161 /N408166	N314933 /N314946	N408123 /N408131 /
	CATEGORY 3 PARAMETERS			
C24	ISOPROPYL ALCOHOL	MG/L <.1	<.1	<.1
C25	ETHANOL	MG/L <.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L <10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L <.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L <.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L <.1	<.1	<.1
C30	STYRENE	MG/L <.1	<.1	<.1
C31	ACETONE	MG/L <.1	<.1	<.1
C32	ETHYL ACETATE	MG/L <.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L <.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L <.1	<.1	<.1
C35	DITHANE	MG/L <.02	<.02	<.02
C36	LETHANE	MG/L .002	<.001	<.001
C37	KARATHANE	MG/L <.01	<.01	<.01
C38	DNCP	MG/L .02	<.01	<.01
C69	TOTAL XYLENES	UG/L <1.0	NT	<1.0
C111	TOLUENE	MG/L <.1	NT	<.1
	CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L <.15	<.17	<.15
T2	ARSENIC (GF)	MG/L .005	.005	.004
T3	BERYLLIUM	MG/L <.01	<.01	<.01
T4	CADMIUM (GF)	MG/L <.005	<.0005	<.0005
T5	CHROMIUM (GF)	MG/L .007	<.002	<.002
T6	COPPER	MG/L <.03	<.03	<.03
T7	LEAD (GF)	MG/L .022	<.002	.006
T8	MERCURY	MG/L .0004	.0002	.0003
T9	NICKEL	MG/L <.1	<.1	<.1
T10	SELENIUM	MG/L <.001	<.001	<.001
T11	SILVER	MG/L <.001	.001	<.001
T12	THALLIUM	MG/L <.3	<.3	<.3
T13	ZINC	MG/L .02	.08	<.01
T14	CYANIDE	MG/L <.005	<.005	<.005

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

	HRM-0560	HRM-1110	HRM-1110
	05/22/84	11/22/83	05/22/84
	N408161 /N408166	N314933 /N314946	N408123 /N408131 /

CATEGORY 4 - OTHER PARAMETERS

T15	PHENOLS	MG/L	.005	.008	.002

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V1	ACROLEIN	UG/L	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	NT	<100.0	NT
V3	BENZENE	UG/L	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<10.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	NT	<10.0	NT
V11	CHLOROFORM	UG/L	<1.0	<10.0	1.4
V12	BROMODICHLOROMETHANE	UG/L	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L	<1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<1.0	<10.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	<10.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<10.0	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

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RUHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

	HRM-0560	HRM-1110	HRM-1110
	05/22/84	11/22/83	05/22/84
	N408161 /N408166	N314933 /N314946	N408123 /N408131

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
			<1.0		<1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
			<1.0		<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
			<1.0		<1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

	HRM-0560	HRM-1110	HRM-1110
	05/22/84	11/22/83	05/22/84
	N408161 /N408166	N314933 /N314946	N408123 /N408131 /

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P1	ALDRIN	UG/L	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

		HRM-0560	HRM-1110	HRM-1110
		05/22/84	11/22/83	05/22/84
		N408161 /N408166	N314933 /N314946	N408123 /N408131 /
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS			
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5
	CATEGORY 5 PARAMETERS			
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

			HRM-1370 11/22/83	HRM-1370 05/22/84	HRM-2160 11/22/83	HRM-2160 05/22/84
			N314932 /N314945	N408119 /N408127	N314931 /N314944	N408118 /N408126
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	19.0	20.0	19.0	21.0
C2	TOTAL ORGANIC HALIDE	UG/L	47.3	<20.0	<40.0	25.0
C3	BOD	MG/L	29.0	37.0	<3.0	9.0
C4	COD	MG/L	98.0	44.0	30.0	60.0
C5	SPECIFIC CONDUCTANCE	UMHOS	1890.0	306.0	332.0	284.0
C6	PH	SU	6.6	6.9	6.5	6.9
C7	TEMPERATUNE	DEG. C	17.8	26.1	13.9	18.3
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	3.8	4.0	2.75	1.8
C9	BORON	MG/L	.19	.1	.17	.2
C10	CHLORIDE	MG/L	95.0	26.2	29.3	22.5
C11	FLUORIDE	MG/L	.42	<.1	.2	<.1
C12	IRON	MG/L	17.7	.52	.48	.33
C14	NITRATE	MG/L	.3	1.4	1.51	1.3
C15	PHOSPHATE	MG/L	<.01	.02	.02	.03
C16	SULFATE	MG/L	501.0	39.4	100.14	39.4
C17	SODIUM	MG/L	205.0	26.9	25.3	19.7
C18	POTASSIUM	MG/L	13.9	3.65	5.25	3.14
C43	BARIUM (GF)	MG/L	.204	.203	.074	.073
C52	MANGANESE	MG/L	3.31	.66	.55	.65
C60	SULFIDE AS S	MG/L	<1.0	<1.0	1.0	<1.0
C61	TIN	MG/L	<.76	<1.0	<.76	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	2.0	2.0	<1.0	<1.0
C20	SURFACTANTS (MBAS)	MG/L	.107	.25	<.012	.11
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

			HRM-1370 11/22/83	HRP-1370 05/22/84	HRM-2160 11/22/83	HRP-2160 05/22/84
			N314932 /N314945	N408119 /N408127	N314931 /N314944	N408118 /N408126
	CATEGORY 3 PARAMETERS					
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	NT	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1
	CATEGORY 4 - OTHER PARAMETERS					
T1	ANTIMONY	MG/L	<.17	<.15	<.17	<.15
T2	ARSENIC (GF)	MG/L	.004	.009	.004	.008
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0005	<.0005	.0007	<.0005
T5	CHROMIUM (GF)	MG/L	.018	<.002	<.002	<.002
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	.007	<.002	.006
T8	MERCURY	MG/L	<.0002	<.0002	<.0002	.0002
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	<.01	.09	.08	.04
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

			HRM-1370 11/22/83	HRM-1370 05/22/84	HRM-2160 11/22/83	HRM-2160 05/22/84
			N314932 /N314945	N408119 /N408127	N314931 /N314944	N408118 /N408126
	CATEGORY 4 - OTHER PARAMETERS					
T15	PHENOLS	MG/L	.006	.002	.008	<.002
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V1	ACROLEIN	UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	<100.0	NT
V3	BENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L	<10.0	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	2.8
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	1.5
V31	TRICHLOROFLUOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V32	VINYL CHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

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000865

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SURFACE WATER

	HRM-1370 11/22/83	HRM-1370 05/22/84	HRM-2160 11/22/83	HRM-2160 05/22/84
	N314932 /N314945	N408119 /N408127	N314931 /N314944	N408118 /N408126

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
				<1.0		<1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
				<1.0		<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
				<1.0		<1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITHOTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

			HRM-1370 11/22/83	HRM-1370 05/22/84	HRM-2160 11/22/83	HRM-2160 05/22/84
			N314932 /N314945	N408119 /N408127	N314931 /N314944	N408118 /N408126
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS						
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS						
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS						
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

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23

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER

OCT 26, 1984

000867

			HRM-1370 11/22/83	HRM-1370 05/22/84	HRM-2160 11/22/83	HRM-2160 05/22/84
			N314932 /N314945	N408119 /N408127	N314931 /N314944	N408118 /N408126
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS						
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
CATEGORY 5 PARAMETERS						
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	6.0	<3.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SURFACE WATER DATA

	HRT-2730	TWB-3B	HRE-2890	HRE-2890
	11/23/83	05/22/84	11/23/83	05/29/84
	N315039 /N315045	N408121 /N408129	N315037 /N315043	N408467 /N408471
CATEGORY 1 PARAMETERS				
C1 TOTAL ORGANIC CARBON	MG/L	23.0	35.0	11.0	14.4
C2 TOTAL ORGANIC HALIDE	UG/L	56.0	34.0	83.5	44.0
C3 BOD	MG/L	8.0	23.0	<3.0	7.0
C4 COD	MG/L	41.0	83.0	39.0	39.0
C5 SPECIFIC CONDUCTANCE	UMHOS	359.0	758.0	254.0	229.0
C6 PH	SU	6.3	9.7	6.0	6.5
C7 TEMPERATURE	DEG. C	10.5	26.1	11.7	16.1
CATEGORY 2 PARAMETERS					
C8 NITROGEN, AMMONIA	MG/L	<.05	1.49	.19	.55
C9 BORON	MG/L	.13	<.1	.09	.1
C10 CHLORIDE	MG/L	34.7	99.2	24.3	30.9
C11 FLUORIDE	MG/L	.126	<.1	.116	.19
C12 IRON	MG/L	.74	.59	.31	1.9
C14 NITRATE	MG/L	.69	2.1	1.99	.6
C15 PHOSPHATE	MG/L	.03	2.66	.02	.1
C16 SULFATE	MG/L	30.17	90.3	52.59	22.4
C17 SODIUM	MG/L	42.8	120.0	20.4	16.3
C18 POTASSIUM	MG/L	5.81	4.4	2.85	5.3
C43 BARIUM (GF)	MG/L	.105	.006	.076	.064
C52 MANGANESE	MG/L	.53	.73	.05	.54
C60 SULFIDE AS S	MG/L	1.2	<2.0	1.1	2.0
C61 TIN	MG/L	<.76	<1.0	<.76	<1.0
CATEGORY 3 PARAMETERS					
C19 OIL AND GREASE	MG/L	3.0	2.0	4.0	2.0
C20 SURFACTANTS (MBAS)	MG/L	.1	1.01	.469	.09
C21 METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22 ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23 N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SURFACE WATER DATA

HRT-2730	TWB-3B	HRE-2890	HRE-2690
11/23/83	05/22/84	11/23/83	05/29/84
N315039 /N315045	N408121 /N408129	N315037 /N315043	N408467 /N408471

CATEGORY 3 PARAMETERS

C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	NT	<.02	NT	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	.06	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	NT	<.1

CATEGORY 4 - OTHER PARAMETERS

T1	ANTIMONY	MG/L	<.15	<.15	<.17	<.15
T2	ARSENIC (GF)	MG/L	.006	.004	.006	.004
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0024	<.0005	.0017	.003
T5	CHROMIUM (GF)	MG/L	.003	<.002	.005	.004
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	.008	<.002	<.002
T8	MERCURY	MG/L	<.0004	<.0002	<.0004	.0014
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.75	.01	.12	.05
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

	HRT-2730	TW8-3B	HRE-2890	HRE-2890
	11/23/83	05/22/84	11/23/83	05/29/84
	N315039 /N315045	N408121 /N408129	N315037 /N315043	N408467 /N408471
CATEGORY 4 - OTHER PARAMETERS				
T15 PHENOLS	MG/L .02	.006	.005	.009
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1 ACROLEIN	UG/L <100.0	NT	<100.0	NT
V2 ACRYLONITRILE	UG/L <100.0	NT	<100.0	NT
V3 BENZENE	UG/L <10.0	<1.0	<10.0	<1.0
V4 BIS (CHLOROMETHYL) ETHER	UG/L <10.0	<4.0	<10.0	<4.0
V5 BROMOFORM	UG/L <10.0	<1.0	<10.0	<1.0
V6 CARBON TETRACHLORIDE	UG/L <10.0	<1.0	<10.0	<1.0
V7 CHLOROBENZENE	UG/L <10.0	<1.0	<10.0	<1.0
V9 CHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V10 2-CHLOROETHYLVINYL ETHER	UG/L <10.0	NT	<10.0	NT
V11 CHLOROFORM	UG/L <10.0	1.5	<10.0	<1.0
V12 BROMODICHLOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V13 DICHLORODIFLUOROMETHANE	UG/L <10.0	NT	<10.0	NT
V14 1,1-DICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V15 1,2-DICHLOROETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V16 1,1-DICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V17 1,2-DICHLOROPROPANE	UG/L <10.0	<1.0	<10.0	<1.0
V18 CIS-1,3-DICHLOROPROPYLENE *	UG/L <10.0	<1.0	<10.0	<1.0
V19 TRANS-1,3-DICHLOROPROPYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V20 ETHYLBENZENE	UG/L <10.0	<1.0	<10.0	<1.0
V21 BROMOMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V22 CHLOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V23 METHYLENE CHLORIDE	UG/L <10.0	<1.0	<10.0	1.3***
V25 TETRACHLOROETHYLENE **	UG/L <10.0	<1.0	<10.0	<1.0
V26 TOLUENE	UG/L <10.0	<1.0	<10.0	<1.0
V27 TRANS-1,2-DICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	<1.0
V28 1,1,1-TRICHLOROETHANE	UG/L <10.0	<1.0	<10.0	7.3
V30 TRICHLOROETHYLENE	UG/L <10.0	<1.0	<10.0	1.1
V31 TRICHLOROFLUOROMETHANE	UG/L <10.0	<1.0	<10.0	<1.0
V32 VINYL CHLORIDE	UG/L <10.0	<1.0	<10.0	<1.0

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NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

***RESULT IS SUSPECT. SAMPLING QUALITY CONTROL BLANK COLLECTED ON SAME DAY EXHIBITED AN ELEVATED CONCENTRATION FOR THIS PARAMETER.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

	HRT-2730	TW8-3B	HRE-2890	HRE-2890
	11/23/83	05/22/84	11/23/83	05/29/84
	N315039 /N315045	N408121 /N408129	N315037 /N315043	N408467 /N408471

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<10.0
				<10.0		<1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<10.0
				<10.0		<1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<10.0
				<10.0		<1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
						<1.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

	HRT-2730	TWB-38	HRE-2890	HRE-2890
	11/23/83	05/22/84	11/23/83	05/29/84
	N315039 /N315045	N408121 /N408129	N315037 /N315043	N408467 /N408471

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

	HRT-2730	TWB-3B	HRE-2890	HRE-2890
	11/23/83	05/22/84	11/23/83	05/29/84
	N315039 /N315045	N408121 /N408129	N315037 /N315043	N408467 /N408471

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	3.0	<3.0	5.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

			HRE-3650 05/23/84	HRE-4560 05/23/84	HRE-5320 05/23/84	HRE-6640 05/23/84
			N408157 /N408162	N408158 /N408163	N408159 /N408164	N408160 /N408165
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	5.0	4.0	2.0	3.0
C2	TOTAL ORGANIC HALIDE	UG/L	26.0	27.0	37.0	37.0
C3	BOD	MG/L	3.0	10.0	8.0	8.0
C4	COD	MG/L	13.0	4.0	15.0	8.0
C5	SPECIFIC CONDUCTANCE	UMHOS	232.0	232.0	234.0	197.0
C6	PH	SU	6.3	6.2	6.7	6.6
C7	TEMPERATURE	DEG. C	18.9	18.3	20.0	23.9
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	.2	.2	.1	<.05
C9	BORON	MG/L	.2	.2	.2	.1
C10	CHLORIDE	MG/L	20.6	20.6	22.5	19.6
C11	FLUORIDE	MG/L	<.1	<.1	<.1	.1
C12	IRON	MG/L	.41	.55	.48	.33
C14	NITRATE	MG/L	1.2	1.2	1.3	.4
C15	PHOSPHATE	MG/L	.03	.03	.05	.04
C16	SULFATE	MG/L	38.7	31.6	31.6	26.6
C17	SODIUM	MG/L	13.6	14.1	13.6	10.8
C18	POTASSIUM	MG/L	3.05	3.08	3.35	1.96
C43	BARIUM (GF)	MG/L	.067	.08	.094	.036
C52	MANGANESE	MG/L	.94	1.01	1.18	.31
C60	SULFIDE AS S	MG/L	<1.0	<1.0	<1.0	<1.0
C61	TIN	MG/L	<1.0	<1.0	<1.0	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	2.0	1.0	3.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	.18	.04	.07	.03
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SURFACE WATER DATA

		HRE-3650 05/23/84	HRE-4560 05/23/84	HRE-5320 05/23/84	HRE-6640 05/23/84
		N408157 /N408162	N408158 /N408163	N408159 /N408164	N408160 /N408165
	CATEGORY 3 PARAMETERS				
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	<1.0	<1.0	<1.0	<1.0
C111	TOLUENE	MG/L	<.1	<.1	<.1	<.1
	CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L	<.15	<.15	<.15	<.15
T2	ARSENIC (GF)	MG/L	.005	.004	.004	.005
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.0005	<.0005	<.0005	<.0005
T5	CHROMIUM (GF)	MG/L	<.002	.002	<.002	.006
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	.003	.005	.003	.011
T8	MERCURY	MG/L	.0002	<.0002	<.0002	.0004
T9	NICKEL	MG/L	<.1	<.1	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.09	.04	.03	.03
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

			HRE-3650 05/23/84	HRE-4560 05/23/84	HRE-5320 05/23/84	HRE-6640 05/23/84
			N408157 /N408162	N408158 /N408163	N408159 /N408164	N408160 /N408165
	CATEGORY 4 - OTHER PARAMETERS					
T15	PHENOLS	MG/L	<.002	<.002	<.002	<.002
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V3	BENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<4.0	<4.0	<4.0	<4.0
V5	BROMOFORM	UG/L	<1.0	<1.0	<1.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V11	CHLOROFORM	UG/L	<1.0	<1.0	<1.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	<1.0	<1.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<1.0	<1.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V20	ETHYLBENZENE	UG/L	<1.0	<1.0	<1.0	<1.0
V21	BROMOMETHANE	UG/L	<1.0	1.0	<1.0	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<1.0	<1.0	<1.0	<1.0
V26	TOLUENE	UG/L	<1.0	<1.0	<1.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	1.3	1.1	<1.0	4.5
V30	TRICHLOROETHYLENE	UG/L	<1.0	<1.0	<1.0	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<1.0	<1.0	<1.0

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

000876

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

000877

	HRE-3650	HRE-4560	HRE-5320	HRE-6640
	05/23/84	05/23/84	05/23/84	05/23/84
	N408157 /N408162	N408158 /N408163	N408159 /N408164	N408160 /N408165
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B2 ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3 ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4 BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5 BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6 BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B8 BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9 BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10 BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11 BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12 BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13 BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14 4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15 BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16 2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17 4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18 CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19 DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20 1,2-DICHLOROBENZENE	UG/L	<1.0	<10.0	<1.0	<10.0
		<10.0	<1.0	<10.0	<1.0
B21 1,3-DICHLOROBENZENE	UG/L	<1.0	<10.0	<1.0	<10.0
		<10.0	<1.0	<10.0	<1.0
B22 1,4-DICHLOROBENZENE	UG/L	<1.0	<10.0	<1.0	<10.0
		<10.0	<1.0	<10.0	<1.0
B23 3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B24 DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25 DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B26 DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27 2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28 2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29 DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30 1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31 FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32 FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33 HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34 HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35 HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

		HRE-3650 05/23/84	HRE-4560 05/23/84	HRE-5320 05/23/84	HRE-6640 05/23/84
		N408157 /N408162	N408158 /N408163	N408159 /N408164	N408160 /N408165
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

00878

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SURFACE WATER DATA

OCT 26, 1984

000879

	HRE-3650	HRE-4560	HRE-5320	HRE-6640
	05/23/84	05/23/84	05/23/84	05/23/84
	N408157 /N408162	N408158 /N408163	N408159 /N408164	N408160 /N408165

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	NT	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<3.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	<3.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

BCM

APPENDIX F4

SEEP RESULTS

088000

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SEEPS

	DRD-0.3 11/22/83	DRD-0.3 05/21/84	HRM-0720 11/22/83	HRM-0720 05/22/84
	N314927 /N314940	N408034 /N408039	N314930 /N314943	N408124 /N408132
CATEGORY 1 PARAMETERS				
C1 TOTAL ORGANIC CARBON	MG/L	54.0	1.0	28.0	28.0
C2 TOTAL ORGANIC HALIDE	UG/L	78.3	<20.0	307.0	35.0
C3 BOD	MG/L	3.0	<6.0	7.0	5.0
C4 COD	MG/L	<4.0	<4.0	135.0	68.0
C5 SPECIFIC CONDUCTANCE	UMHOS	343.0	387.0	2339.0	772.0
C6 PH	SU	6.8	6.5	6.9	7.3
C7 TEMPERATURE	DEG. C	13.9	26.1	11.0	14.4
CATEGORY 2 PARAMETERS					
C8 NITROGEN, AMMONIA	MG/L	1.5	1.39	144.0	14.0
C9 BORON	MG/L	.11	.1	.32	.1
C10 CHLORIDE	MG/L	13.9	9.4	138.0	96.4
C11 FLUORIDE	MG/L	.42	.2	.25	.1
C12 IRON	MG/L	.78	13.7	.38	1.4
C14 NITRATE	MG/L	1.08	.3	2.22	1.7
C15 PHOSPHATE	MG/L	.02	.09	<.06	1.3
C16 SULFATE	MG/L	63.06	10.0	17.33	76.6
C17 SODIUM	MG/L	10.2	6.36	162.0	96.1
C18 POTASSIUM	MG/L	4.14	5.45	40.0	7.7
C43 BARIUM (GF)	MG/L	.06	.137	.256	.073
C52 MANGANESE	MG/L	7.5	9.79	.45	.9
C60 SULFIDE AS S	MG/L	<.1	<4.0	1.2	<1.0
C61 TIN	MG/L	<.76	<1.0	<.76	<1.0
CATEGORY 3 PARAMETERS					
C19 OIL AND GREASE	MG/L	3.0	1.0	3.0	3.0
C20 SURFACTANTS (MBAS)	MG/L	.35	.03	.278	.82
C21 METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22 ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C23 N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

000881

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SEEPS

		DRD-0.3 11/22/83	DRD-0.3 05/21/84	HRM-0720 11/22/83	HRM-0720 05/22/84
		N314927 /N314940	N408034 /N408039	N314930 /N314943	N408124 /N408132
	CATEGORY 3 PARAMETERS				
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	NT	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	.03
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	NT	<.1	<.1	<.1
	CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L	<.17	<.15	<.17	<.15
T2	ARSENIC (GF)	MG/L	.004	.003	.004	.004
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	<.0005	<.0005	.0013	<.0005
T5	CHROMIUM (GF)	MG/L	.004	<.002	.003	<.002
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	<.002	.002	<.002	.004
T8	MERCURY	MG/L	<.0002	.0011	<.0002	<.0002
T9	NICKEL	MG/L	<.1	<.1	.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3
T13	ZINC	MG/L	.04	.07	.15	.03
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

OCT 26, 1984

		DRD-0.3 11/22/83	DRD-0.3 05/21/84	HRM-0720 11/22/83	HRM-0720 05/22/84
		N314927 /N314940	N408034 /N408039	N314930 /N314943	N408124 /N408132
	CATEGORY 4 - OTHER PARAMETERS				
T15	PHENOLS MG/L	.008	<.002	.024	.009
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V1	ACROLEIN UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE UG/L	<100.0	NT	<100.0	NT
V3	BENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM UG/L	<10.0	<1.0	<10.0	2.5
V12	BROMODICHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE * UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE UG/L	<10.0	<1.0	<10.0	<1.0
V25	TETRACHLORETHYLENE ** UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE UG/L	<10.0	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE UG/L	<10.0	<1.0	<10.0	<1.0
V30	TRICHLOROETHYLENE UG/L	<10.0	<1.0	<10.0	<1.0
V31	TRICHLOROFLUOROMETHANE UG/L	NT	<1.0	NT	<1.0
V32	VINYL CHLORIDE UG/L	NT	<1.0	NT	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

008282

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SEEPS

	DRD-0.3 11/22/83	DRD-0.3 05/21/84	HRP-0720 11/22/83	HRP-0720 05/22/84
	N314927 /N314940	N408034 /N408039	N314930 /N314943	N408124 /N408132
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B2 ACENAPHTHYLENE	<10.0	<10.0	<10.0	<10.0
B3 ANTHRACENE	<10.0	<10.0	<10.0	<10.0
B4 BENZIDINE	<10.0	<10.0	<10.0	<10.0
B5 BENZO (A) ANTHRACENE	<10.0	<10.0	<10.0	<10.0
B6 BENZO (A) PYRENE	<10.0	<10.0	<10.0	<10.0
B7 3,4-BENZOFLUORANTHENE	NT	NT	<10.0	NT
B8 BENZO (GHI) PERYLENE	<25.0	<25.0	<25.0	<25.0
B9 BENZO (K) FLUORANTHENE	<10.0	<10.0	<10.0	<10.0
B10 BIS (2-CHLOROETHOXY) METHANE	<10.0	<10.0	<10.0	<10.0
B11 BIS (2-CHLOROETHYL) ETHER	<10.0	<10.0	<10.0	<10.0
B12 BIS(2-CHLOROISOPROPYL) ETHER	<10.0	<10.0	<10.0	<10.0
B13 BIS (2-ETHYLHEXYL) PHTHALATE	<10.0	<10.0	<10.0	<10.0
B14 4-BROMOPHENYL PHENYL ETHER	<10.0	<10.0	<10.0	<10.0
B15 BUTYL BENZYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B16 2-CHORONAPHTHALENE	<10.0	<10.0	<10.0	<10.0
B17 4-CHOROPHENYL PHENYL ETHER	<10.0	<10.0	<10.0	<10.0
B18 CHRYSENE	<10.0	<10.0	<10.0	<10.0
B19 DIBENZO (A,H) ANTHRACENE	<25.0	<25.0	<25.0	<25.0
B20 1,2-DICHLOROBENZENE	<10.0	<1.0	<10.0	<10.0
		<10.0		<1.0
B21 1,3-DICHLOROBENZENE	<10.0	<1.0	<10.0	<10.0
		<10.0		<1.0
B22 1,4-DICHLOROBENZENE	<10.0	<1.0	<10.0	<10.0
		<10.0		<1.0
B23 3,3'-DICHLOROBENZIDINE	<10.0	<10.0	<10.0	<10.0
B24 DIETHYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B25 DIMETHYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B26 DI-N-BUTYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B27 2,4-DINITROTOLUENE	<10.0	<10.0	<10.0	<10.0
B28 2,6-DINITROTOLUENE	<10.0	<10.0	<10.0	<10.0
B29 DI-N-OCTYL PHTHALATE	<10.0	<10.0	<10.0	<10.0
B30 1,2-DIPHENYLHYDRAZINE	<10.0	<10.0	<10.0	<10.0
B31 FLUORANTHENE	<10.0	<10.0	<10.0	<10.0
B32 FLUORENE	<10.0	<10.0	<10.0	<10.0
B33 HEXACHLOROBENZENE	<10.0	<10.0	<10.0	<10.0
B34 HEXACHLOROBUTADIENE	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

OCT 26, 1984

	DRD-0.3 11/22/83	DRD-0.3 05/21/84	HRM-0720 11/22/83	HRM-0720 05/22/84
	N314927 /N314940	N408034 /N408039	N314930 /N314943	N408124 /N408132
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B35 HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36 HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37 INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38 ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39 NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40 NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41 N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42 N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43 N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44 PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45 PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46 1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47 BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A1 2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2 2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3 2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4 4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5 2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6 2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7 4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8 P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0
A9 PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10 PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11 2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P1 ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2 ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SEEPS

		DRD-0.3 11/22/83	DRD-0.3 05/21/84	HRM-0720 11/22/83	HRM-0720 05/22/84
		N314927 /N314940	N408034 /N408039	N314930 /N314943	N408124 /N408132
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5
CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	3.0	<3.0	10.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	<1.0	<1.0	<1.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

OCT 31, 1984

			HRM-0930 11/22/83	HRM-0930 05/22/84	HRM-1970 11/22/83	HRM-1970 05/22/84
			N314929 /N314942	N408117 /N408125	N314928 /N314941	N408120 /N408128
	CATEGORY 1 PARAMETERS					
C1	TOTAL ORGANIC CARBON	MG/L	54.0	20.0	24.0	12.0
C2	TOTAL ORGANIC HALIDE	UG/L	34.1	75.0	47.1	22.0
C3	BOD	MG/L	6.0	33.0	4.0	21.0
C4	COD	MG/L	62.0	111.0	18.0	36.0
C5	SPECIFIC CONDUCTANCE	UMHOS	1130.0	2106.0	343.0	283.0
C6	PH	SU	7.0	6.75	6.3	6.8
C7	TEMPERATURE	DEG. C	10.5	13.3	15.5	24.4
	CATEGORY 2 PARAMETERS					
C8	NITROGEN, AMMONIA	MG/L	68.5	128.0	3.4	2.85
C9	BORON	MG/L	.17	.4	.2	.2
C10	CHLORIDE	MG/L	128.0	236.0	32.4	25.3
C11	FLUORIDE	MG/L	.31	.3	.2	<.1
C12	IRON	MG/L	.41	20.7	3.31	.37
C14	NITRATE	MG/L	.96	<.1	1.17	1.3
C15	PHOSPHATE	MG/L	.07	.04	.04	.04
C16	SULFATE	MG/L	35.87	5.5	48.23	40.3
C17	SODIUM	MG/L	106.0	162.0	25.6	33.5
C18	POTASSIUM	MG/L	13.2	22.7	4.79	3.45
C43	BARIUM (GF)	MG/L	.189	.175	.184	.079
C52	MANGANESE	MG/L	1.19	2.4	2.52	.91
C60	SULFIDE AS S	MG/L	<1.0	4.0	<1.0	<1.0
C61	TIN	MG/L	<.76	<1.0	<.76	<1.0
	CATEGORY 3 PARAMETERS					
C19	OIL AND GREASE	MG/L	3.0	1.0	2.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	.647	.82	.151	.22
C21	METHYL ETHYL KETONE	MG/L	<.1	<.1	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

OCT 31, 1984

			HRM-0930 11/22/83	HRP-0930 05/22/84	HRP-1970 11/22/83	HRP-1970 05/22/84
			N314929 /N314942	N408117 /N408125	N314928 /N314941	N408120 /N408128
			CATEGORY 3 PARAMETERS			
C23	N-BUTYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C24	ISOPROPYL ALCOHOL	MG/L	<.1	<.1	<.1	<.1
C25	ETHANOL	MG/L	<.1	<.1	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	<10.0	<10.0	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	<.1	<.1	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	<.1	<.1	<.1	<.1
C30	STYRENE	MG/L	<.1	<.1	<.1	<.1
C31	ACETONE	MG/L	<.1	<.1	<.1	<.1
C32	ETHYL ACETATE	MG/L	<.1	<.1	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	<.1	<.1	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	<.1	<.1	<.1	<.1
C35	DITHANE	MG/L	<.02	<.02	<.02	<.02
C36	LETHANE	MG/L	<.001	<.001	<.001	<.001
C37	KARATHANE	MG/L	<.01	<.01	<.01	<.01
C38	DNCP	MG/L	<.01	<.01	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	<1.0	NT	<1.0
C111	TOLUENE	MG/L	<.1	<.1	NT	<.1
			CATEGORY 4 - OTHER PARAMETERS			
T1	ANTIMONY	MG/L	<.17	<.15	<.17	<.15
T2	ARSENIC (GF)	MG/L	.005	.006	.005	.01
T3	BERYLLIUM	MG/L	<.01	<.01	<.01	<.01
T4	CADMIUM (GF)	MG/L	.0006	<.0005	<.0005	<.0005
T5	CHROMIUM (GF)	MG/L	.007	.005	.004	<.002
T6	COPPER	MG/L	<.03	<.03	<.03	<.03
T7	LEAD (GF)	MG/L	.002	.006	<.002	.007
T8	MERCURY	MG/L	.0002	.0003	<.0004	.0002
T9	NICKEL	MG/L	<.1	<1.0	<.1	<.1
T10	SELENIUM	MG/L	<.001	<.001	<.001	<.001
T11	SILVER	MG/L	<.001	<.001	<.001	<.001
T12	THALLIUM	MG/L	<.3	<.3	<.3	<.3

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 31, 1984
SEEPS

	HRM-0930 11/22/83	HRM-0930 05/22/84	HRM-1970 11/22/83	HRM-1970 05/22/84
	N314929 /N314942	N408117 /N408125	N314928 /N314941	N408120 /N408128

CATEGORY 4 - OTHER PARAMETERS

T13	ZINC	MG/L	.11	.02	.18	.06
T14	CYANIDE	MG/L	<.005	<.005	<.005	<.005
T15	PHENOLS	MG/L	.01	.014	.004	.002

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V1	ACROLEIN	UG/L	<100.0	NT	<100.0	NT
V2	ACRYLONITRILE	UG/L	<100.0	NT	<100.0	NT
V3	BENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<10.0	<4.0	<10.0	<4.0
V5	BROMOFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
V7	CHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V9	CHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V10	2-CHLOROETHYLVINYL ETHER	UG/L	<10.0	NT	<10.0	NT
V11	CHLOROFORM	UG/L	<10.0	<1.0	<10.0	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V13	DICHLORODIFLUOROMETHANE	UG/L	<10.0	NT	<10.0	NT
V14	1,1-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<10.0	<1.0	<10.0	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<10.0	<1.0	<10.0	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V20	ETHYLBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
V21	BROMOMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V22	CHLOROMETHANE	UG/L	<10.0	<1.0	<10.0	<1.0
V23	METHYLENE CHLORIDE	UG/L	<10.0	<1.0	<10.0	<1.0
V25	TETRACHLOROETHYLENE **	UG/L	<10.0	<1.0	<10.0	<1.0
V26	TOLUENE	UG/L	<10.0	<1.0	<10.0	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<10.0	<1.0	<10.0	1.0
V30	TRICHLOROETHYLENE	UG/L	<10.0	<1.0	<10.0	1.1

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NT-NOT TESTED AS PART OF THIS STUDY

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLOROETHYLENE.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

OCT 31, 1984

000889

			HRM-0930 11/22/83	HRM-0930 05/22/84	HRP-1970 11/22/83	HRP-1970 05/22/84
			N314929 /N314942	N408117 /N408125	N314928 /N314941	N408120 /N408128
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V31	TRICHLOROFLUOROMETHANE	UG/L	NT	<1.0	NT	<1.0
V32	VINYL CHLORIDE	UG/L	NT	<1.0	NT	<1.0
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B1	ACENAPHTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B2	ACENAPHTHYLENE	UG/L	<10.0	<10.0	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	<10.0	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	<10.0	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B7	3,4-BENZOFLUORANTHENE	UG/L	<10.0	NT	<10.0	NT
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	<25.0	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	<10.0	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	<10.0	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	<25.0	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<1.0	<10.0	<1.0
B21	1,3-DICHLOROBENZENE	UG/L	<10.0	<10.0 <1.0	<10.0	<10.0 <1.0
B22	1,4-DICHLOROBENZENE	UG/L	<10.0	<10.0 8.0	<10.0	<10.0 <1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<10.0	<10.0 <10.0	<10.0	<10.0 <10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

OCT 31, 1984

			HRM-0930 11/22/83	HRM-0930 05/22/84	HRM-1970 11/22/83	HRM-1970 05/22/84
			N314929 /N314942	N408117 /N408125	N314928 /N314941	N408120 /N408128
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	<10.0	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	<10.0	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	<10.0	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	<10.0	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	<10.0	<10.0	<10.0	<10.0
B36	HEXACHLOROETHANE	UG/L	<10.0	<10.0	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	<25.0	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	<10.0	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	<10.0	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	<10.0	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	<10.0	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	<10.0	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	<10.0	<10.0	<10.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A1	2-CHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	<250.0	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	<250.0	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	<25.0	<25.0	<25.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

OCT 31, 1984

			HRM-0930 11/22/83	HRM-0930 05/22/84	HRM-1970 11/22/83	HRM-1970 05/22/84
			N314929 /N314942	N408117 /N408125	N314928 /N314941	N408120 /N408128
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A9	PENTACHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	<25.0	<25.0	<25.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P1	ALDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P4	GAMMA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	<10.0	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	<10.0	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	<10.0	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	<10.0	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	<10.0	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	<10.0	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	<10.0	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	<10.0	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	<10.0	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	<10.0	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	<10.0	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	<10.0	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	<10.0	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	<10.0	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	<10.0	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	<10.0	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	<10.0	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	<10.0	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	<10.0	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	<1.0	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	<.5	<.5	<.5

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS

OCT 31, 1984

			HRM-0930 11/22/83	HRM-0930 05/22/84	HRM-1970 11/22/83	HRM-1970 05/22/84
			N314929 /N314942	N408117 /N408125	N314928 /N314941	N408120 /N408128
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	7.0	<2.0	<2.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	12.0	11.0	<3.0	<3.0
C57	TOTAL RADIUM	PC I/L	3.0	3.0	<1.0	<1.0

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RUHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SEEPS DATA

		HRE-4060 05/24/84	HRh-3800 02/23/84	HRh-4030 02/23/84	HRh-4030 05/31/84
		N408264 /N408266	N402666 /N402672	N402675 /N402677	N408640 /N408643
	CATEGORY 1 PARAMETERS				
C1	TOTAL ORGANIC CARBON	MG/L	34.0	NT	43.0	10.1
C2	TOTAL ORGANIC HALIDE	UG/L	81.0	NT	NT	31.0
C3	BOD	MG/L	4.0	NT	6.0	6.0
C4	COD	MG/L	81.0	115.0	120.0	46.0
C5	SPECIFIC CONDUCTANCE	UMHOS	119.0	230.0	1480.0	139.0
C6	PH	SU	6.0	5.5	6.8	6.6
C7	TEMPERATURE	DEG. C	13.9	NT	7.2	13.3
C135	TOTAL COLIFORM PER 100 ML NO.		NT	NT	<.3	NT
	CATEGORY 2 PARAMETERS				
C8	NITROGEN, AMMONIA	MG/L	.09	<.05	59.5	1.55
C9	BORON	MG/L	<.1	NT	.11	.1
C10	CHLORIDE	MG/L	14.0	25.2	29.0	11.2
C11	FLUORIDE	MG/L	<.1	NT	.18	.1
C12	IRON	MG/L	2.48	.2	1.35	1.17
C14	NITRATE	MG/L	.3	1.75	<.05	.18
C15	PHOSPHATE	MG/L	.08	NT	.18	.05
C16	SULFATE	MG/L	10.8	39.7	25.3	9.47
C17	SODIUM	MG/L	6.36	15.6	159.0	11.9
C18	POTASSIUM	MG/L	1.56	NT	11.8	2.13
C43	BARIUM (GF)	MG/L	.022	NT	.233	.039
C52	MANGANESE	MG/L	.11	<.02	3.07	.12
C60	SULFIDE AS S	MG/L	<2.0	NT	<.17	<2.0
C61	TIN	MG/L	<1.0	NT	NT	<1.0
	CATEGORY 3 PARAMETERS				
C19	OIL AND GREASE	MG/L	2.0	NT	2.0	1.0
C20	SURFACTANTS (MBAS)	MG/L	.08	.223	.84	.14
C21	METHYL ETHYL KETONE	MG/L	<.1	NT	<.1	<.1
C22	ISOBUTYL ALCOHOL	MG/L	<.1	NT	<.1	<.1

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS DATA

OCT 26, 1984

	HRE-4060	HRW-3800	HRW-4030	HRW-4030
	05/24/84	02/23/84	02/23/84	05/31/84
	N408264 /N408266	N402666 /N402672	N402675 /N402677	N408640 /N408643
CATEGORY 3 PARAMETERS				
C23 N-BUTYL ALCOHOL	MG/L	<.1	NT	<.1	<.1
C24 ISOPROPYL ALCOHOL	MG/L	<.1	NT	<.1	<.1
C25 ETHANOL	MG/L	<.1	NT	<.1	<.1
C26 BUTYL METHACRYLATE	MG/L	<10.0	NT	<10.0	<10.0
C27 METHYL METHACRYLATE	MG/L	<.1	NT	<.1	<.1
C28 ETHYL ACRYLATE	MG/L	<.1	NT	<.1	<.1
C29 BUTYL ACRYLATE	MG/L	<.1	NT	<.1	<.1
C30 STYRENE	MG/L	<.1	NT	<.1	<.1
C31 ACETONE	MG/L	<.1	NT	<.1	<.1
C32 ETHYL ACETATE	MG/L	<.1	NT	<.1	<.1
C33 CELLOSOLVE ACETATE	MG/L	<.1	NT	<.1	<.1
C34 BUTYL CELLOSOLVE	MG/L	<.1	NT	<.1	<.1
C35 DITHANE	MG/L	<.02	NT	<.02	<.02
C36 LETHANE	MG/L	<.001	NT	<.001	<.001
C37 KARATHANE	MG/L	<.01	NT	<.01	<.01
C38 DNCP	MG/L	<.01	NT	<.01	<.01
C69 TOTAL XYLENES	UG/L	<1.0	NT	NT	<1.0
C111 TOLUENE	MG/L	<.1	NT	NT	<.1
CATEGORY 4 - OTHER PARAMETERS				
T1 ANTIMONY	MG/L	<.15	NT	<.001	<.15
T2 ARSENIC (GF)	MG/L	.004	NT	.009	.006
T3 BERYLLIUM	MG/L	<.01	NT	<.01	<.01
T4 CADMIUM (GF)	MG/L	.005	NT	<.01	<.0005
T5 CHROMIUM (GF)	MG/L	.005	NT	<.02	.003
T6 COPPER	MG/L	<.03	NT	<.03	<.03
T7 LEAD (GF)	MG/L	.007	NT	.003	<.002
T8 MERCURY	MG/L	.0007	NT	<.0002	<.0002
T9 NICKEL	MG/L	<.1	NT	.13	<.1
T10 SELENIUM	MG/L	<.001	NT	<.001	<.001
T11 SILVER	MG/L	<.001	NT	<.02	<.001
T12 THALLIUM	MG/L	<.3	NT	<.3	<.3
T13 ZINC	MG/L	.13	NT	.17	.01

NT - NOT TESTED AS PART OF THIS STUDY.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SEEPS DATA

000895

			HRE-4060 05/24/84	HRN-3800 02/23/84	HRN-4030 02/23/84	HRN-4030 05/31/84
			N408264 /N408266	N402666 /N402672	N402675 /N402677	N408640 /N408643
	CATEGORY 4 - OTHER PARAMETERS					
T14	CYANIDE	MG/L	<.005	NT	<.005	<.005
T15	PHENOLS	MG/L	.002	NT	.032	.009
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS					
V3	BENZENE	UG/L	<1.0	<.1	39.2	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	<4.0	<4.0	<4.0	<4.0
V5	BROMOFORM	UG/L	<1.0	<.1	<.1	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<1.0	<.1	<.1	<1.0
V7	CHLOROBENZENE	UG/L	<1.0	<.1	<.1	<1.0
V9	CHLOROETHANE	UG/L	<1.0	<.1	<.1	<1.0
V11	CHLOROFORM	UG/L	<1.0	<.1	<.1	<1.0
V12	BROMODICHLOROMETHANE	UG/L	<1.0	NT	NT	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<1.0	<.1	<.1	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<1.0	2.1	<.1	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<1.0	.1	<.1	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<1.0	.1	<.1	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<1.0	<.1	<.1	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<1.0	<.1	<.1	<1.0
V20	ETHYLBENZENE	UG/L	<1.0	<.1	374.0	<1.0
V21	BROMOMETHANE	UG/L	<1.0	<.1	<.1	<1.0
V22	CHLOROMETHANE	UG/L	<1.0	<.1	<.1	<1.0
V23	METHYLENE CHLORIDE	UG/L	NT	<.1	5.9	<1.0
V25	TETRACHLORETHYLENE **	UG/L	<1.0	<.1	<.1	<1.0
V26	TOLUENE	UG/L	<1.0	<.1	1.3	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<1.0	.1	<.1	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	<1.0	2.1	.9	<1.0
V30	TRICHLOROETHYLENE	UG/L	<1.0	11.3	<.1	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<1.0	<.1	<.1	<1.0
V32	VINYL CHLORIDE	UG/L	<1.0	<.1	<.1	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLORETHYLENE.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS DATA

OCT 26, 1984

	HRE-4060	HRh-3800	HRh-4030	HRh-4030
	05/24/84	02/23/64	02/23/84	05/31/84
	N408264 /N408266	N402666 /N402672	N402675 /N402677	N408640 /N408643

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B2	ACENAPHTHYLENE	UG/L	<10.0	NT	<10.0	<10.0
B3	ANTHRACENE	UG/L	<10.0	NT	<10.0	<10.0
B4	BENZIDINE	UG/L	<10.0	NT	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	<10.0	NT	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	<10.0	NT	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	<25.0	NT	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	<10.0	NT	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	<10.0	NT	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	<10.0	NT	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	<10.0	NT	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	27.0	NT	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	<10.0	NT	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	<10.0	NT	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	<10.0	NT	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	<10.0	NT	<10.0	<10.0
B18	CHRYSENE	UG/L	<10.0	NT	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	<25.0	NT	<25.0	<25.0
B20	1,2-DICHLOROBENZENE	UG/L	<10.0	<.1	<10.0	<1.0
B21	1,3-DICHLOROBENZENE	UG/L	<1.0 <10.0	<.1	<10.0	<10.0 <1.0
B22	1,4-DICHLOROBENZENE	UG/L	<1.0 <10.0	<.1	<10.0	<10.0 <1.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	<1.0 <10.0	NT	<10.0	<10.0 <10.0
B24	DIETHYL PHTHALATE	UG/L	<10.0	NT	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	<10.0	NT	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	<10.0	NT	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	<10.0	NT	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	<10.0	NT	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	<10.0	NT	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	<10.0	NT	<10.0	<10.0
B31	FLUORANTHENE	UG/L	<10.0	NT	<10.0	<10.0
B32	FLUORENE	UG/L	<10.0	NT	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	<10.0	NT	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	<10.0	NT	<10.0	<10.0
B35	HEXACHLORCYCLOPENTADIENE	UG/L	<10.0	NT	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS DATA

OCT 26, 1984

	HRE-4060	HRW-3800	HRW-4030	HRW-4030
	05/24/84	02/23/84	02/23/84	05/31/84
	N408264 /N408266	N402666 /N402672	N402675 /N402677	N408640 /N408643

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B36	HEXACHLOROETHANE	UG/L	<10.0	NT	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	<25.0	NT	<25.0	<25.0
B38	ISOPHORONE	UG/L	<10.0	NT	<10.0	<10.0
B39	NAPHTHALENE	UG/L	<10.0	NT	<10.0	<10.0
B40	NITROBENZENE	UG/L	<10.0	NT	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	<10.0	NT	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	<10.0	NT	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	<10.0	NT	<10.0	<10.0
B44	PHENANTHRENE	UG/L	<10.0	NT	<10.0	<10.0
B45	PYRENE	UG/L	<10.0	NT	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	<10.0	NT	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	<10.0	NT	<10.0	<10.0

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A1	2-CHLOROPHENOL	UG/L	<25.0	NT	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	<25.0	NT	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	<25.0	NT	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	<250.0	NT	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	<250.0	NT	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	<25.0	NT	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	<25.0	NT	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	<25.0	NT	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	<25.0	NT	<25.0	<25.0
A10	PHENOL	UG/L	<25.0	NT	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	<25.0	NT	<25.0	<25.0

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P1	ALDRIN	UG/L	<10.0	NT	<10.0	<10.0
P2	ALPHA-BHC	UG/L	<10.0	NT	<10.0	<10.0
P3	BETA-BHC	UG/L	<10.0	NT	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS DATA

OCT 26, 1984

	HRE-4060	HRh-3800	HRh-4030	HRh-4030
	05/24/84	02/23/84	02/23/84	05/31/84
	N408264 /N408266	N402666 /N402672	N402675 /N402677	N408640 /N408643

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P4	GAMMA-BHC	UG/L	<10.0	NT	<10.0	<10.0
P5	DELTA-BHC	UG/L	<10.0	NT	<10.0	<10.0
P6	CHLORDANE	UG/L	<10.0	NT	<10.0	<10.0
P7	4,4'-DDT	UG/L	<10.0	NT	<10.0	<10.0
P8	4,4'-DDE	UG/L	<10.0	NT	<10.0	<10.0
P9	4,4'-DDD	UG/L	<10.0	NT	<10.0	<10.0
P10	DIELDRIN	UG/L	<10.0	NT	<10.0	<10.0
P11	ALPHA-ENDOSULFAN	UG/L	<10.0	NT	<10.0	<10.0
P12	BETA-ENDOSULFAN	UG/L	<10.0	NT	<10.0	<10.0
P13	ENDOSULFAN SULFATE	UG/L	<10.0	NT	<10.0	<10.0
P14	ENDRIN	UG/L	<10.0	NT	<10.0	<10.0
P15	ENDRIN ALDEHYDE	UG/L	<10.0	NT	<10.0	<10.0
P16	HEPTACHLOR	UG/L	<10.0	NT	<10.0	<10.0
P17	HEPTACHLOR EPOXIDE	UG/L	<10.0	NT	<10.0	<10.0
P18	PCB-1242	UG/L	<10.0	NT	<10.0	<10.0
P19	PCB-1254	UG/L	<10.0	NT	<10.0	<10.0
P20	PCB-1221	UG/L	<10.0	NT	<10.0	<10.0
P21	PCB-1232	UG/L	<10.0	NT	<10.0	<10.0
P22	PCB-1248	UG/L	<10.0	NT	<10.0	<10.0
P23	PCB-1260	UG/L	<10.0	NT	<10.0	<10.0
P24	PCB-1016	UG/L	<10.0	NT	<10.0	<10.0
P25	TOXAPHENE	UG/L	<10.0	NT	<10.0	<10.0
P26	2,4-D	UG/L	<1.0	NT	<1.0	<1.0
P27	2,4,5-TP	UG/L	<.5	NT	<.5	<.5

000898

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	<2.0	NT	62.0	<2.0
C55	GROSS B RADIOACTIVITY	PC I/L	<3.0	NT	38.0	<3.0
C57	TOTAL RADIUM	PC I/L	<1.0	NT	10.0	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

000899

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS DATA

OCT 26, 1984

	HRW-4320	UNB-0560	UNB-0730	UNB-0730
	02/23/84	02/23/84	02/23/84	05/31/84
	N402667 /N402673	N402663 /N402669	N402676 /N402678	N408639 /N408642
CATEGORY 1 PARAMETERS				
C1 TOTAL ORGANIC CARBON (MG/L)	NT	NT	<1.0	3.4
C2 TOTAL ORGANIC HALIDE (UG/L)	NT	NT	NT	35.0
C3 BOD (MG/L)	NT	NT	<3.0	4.0
C4 COD (MG/L)	86.0	36.0	4.0	58.0
C5 SPECIFIC CONDUCTANCE (UMHOS)	1340.0	210.0	481.0	133.0
C6 PH (SU)	5.7	6.1	6.4	6.45
C7 TEMPERATURE (DEG. C)	5.5	8.8	8.3	14.4
CATEGORY 2 PARAMETERS				
C8 NITROGEN, AMMONIA (MG/L)	.86	<.05	.2	<.05
C9 BORON (MG/L)	NT	NT	NT	<.1
C10 CHLORIDE (MG/L)	379.0	24.3	17.3	18.7
C11 FLUORIDE (MG/L)	NT	NT	.08	.1
C12 IRON (MG/L)	18.6	.16	2.93	.56
C14 NITRATE (MG/L)	<.05	1.31	.36	.62
C15 PHOSPHATE (MG/L)	NT	NT	NT	.22
C16 SULFATE (MG/L)	51.9	33.1	130.0	15.2
C17 SODIUM (MG/L)	209.0	13.8	11.7	4.42
C18 POTASSIUM (MG/L)	NT	NT	4.12	3.03
C43 BARIUM (GF) (MG/L)	NT	NT	.177	.039
C52 MANGANESE (MG/L)	.76	<.02	1.41	.09
C60 SULFIDE AS S (MG/L)	NT	NT	1.1	<2.0
C61 TIN (MG/L)	NT	NT	<1.0	<1.0
CATEGORY 3 PARAMETERS				
C19 OIL AND GREASE (MG/L)	NT	NT	5.0	2.0
C20 SURFACTANTS (MBAS) (MG/L)	.219	.097	.04	.1
C21 METHYL ETHYL KETONE (MG/L)	NT	NT	<.1	<.1
C22 ISOBUTYL ALCOHOL (MG/L)	NT	NT	<.1	<.1
C23 N-BUTYL ALCOHOL (MG/L)	NT	NT	<.1	<.1

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS DATA

OCT 26, 1984

		HRW-4320	UNB-0560	UNB-0730	UNB-0730
		02/23/84	02/23/84	02/23/84	05/31/84
		N402667 /N402673	N402663 /N402669	N402676 /N402678	N408639 /N408642
	CATEGORY 3 PARAMETERS				
C24	ISOPROPYL ALCOHOL	MG/L	NT	NT	<.1	<.1
C25	ETHANOL	MG/L	NT	NT	<.1	<.1
C26	BUTYL METHACRYLATE	MG/L	NT	NT	<10.0	<10.0
C27	METHYL METHACRYLATE	MG/L	NT	NT	<.1	<.1
C28	ETHYL ACRYLATE	MG/L	NT	NT	<.1	<.1
C29	BUTYL ACRYLATE	MG/L	NT	NT	<.1	<.1
C30	STYRENE	MG/L	NT	NT	<.1	<.1
C31	ACETONE	MG/L	NT	NT	<.1	<.1
C32	ETHYL ACETATE	MG/L	NT	NT	<.1	<.1
C33	CELLOSOLVE ACETATE	MG/L	NT	NT	<.1	<.1
C34	BUTYL CELLOSOLVE	MG/L	NT	NT	<.1	<.1
C35	DITHANE	MG/L	NT	NT	<.02	<.02
C36	LETHANE	MG/L	NT	NT	<.001	<.001
C37	KARATHANE	MG/L	NT	NT	<.01	<.01
C38	DNCP	MG/L	NT	NT	<.01	<.01
C69	TOTAL XYLENES	UG/L	NT	NT	NT	<1.0
C111	TOLUENE	MG/L	NT	NT	NT	<.1
	CATEGORY 4 - OTHER PARAMETERS				
T1	ANTIMONY	MG/L	NT	NT	.28	<.15
T2	ARSENIC (GF)	MG/L	NT	NT	.008	.006
T3	BERYLLIUM	MG/L	NT	NT	<.01	<.01
T4	CADMIUM (GF)	MG/L	NT	NT	<.01	<.0005
T5	CHROMIUM (GF)	MG/L	NT	NT	<.02	.004
T6	COPPER	MG/L	NT	NT	<.03	<.03
T7	LEAD (GF)	MG/L	NT	NT	.003	.002
T8	MERCURY	MG/L	NT	NT	<.0002	.0006
T9	NICKEL	MG/L	NT	NT	.1	<.1
T10	SELENIUM	MG/L	NT	NT	<.001	<.001
T11	SILVER	MG/L	NT	NT	<.02	<.001
T12	THALLIUM	MG/L	NT	NT	<.3	<.3
T13	ZINC	MG/L	NT	NT	.14	.08
T14	CYANIDE	MG/L	NT	NT	<.005	<.005

NT - NOT TESTED AS PART OF THIS STUDY.

000900

57

000301

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SEEPS DATA

HRW-4320	UNB-0560	UNB-0730	UNB-0730
02/23/84	02/23/84	02/23/84	05/31/84
N402667 /N402673	N402663 /N402669	N402676 /N402678	N408639 /N408642

CATEGORY 4 - OTHER PARAMETERS

T15	PHENOLS	MG/L	NT	NT	.003	.014

CATEGORY 4 - VOLATILE ORGANIC PARAMETERS

V3	BENZENE	UG/L	<.1	<.1	<.1	<1.0
V4	BIS (CHLOROMETHYL) ETHER	UG/L	NT	NT	NT	<4.0
V5	BROMOFORM	UG/L	<.1	<.1	<.1	<1.0
V6	CARBON TETRACHLORIDE	UG/L	<.1	<.1	<.1	<1.0
V7	CHLOROBENZENE	UG/L	<.1	<.1	<.1	<1.0
V9	CHLOROETHANE	UG/L	<.1	<.1	<.1	<1.0
V11	CHLOROFORM	UG/L	<.1	<.1	<.1	<1.0
V12	BROMODICHLOROMETHANE	UG/L	NT	NT	NT	<1.0
V14	1,1-DICHLOROETHANE	UG/L	<.1	<.1	<.1	<1.0
V15	1,2-DICHLOROETHANE	UG/L	<.1	<.1	<.1	<1.0
V16	1,1-DICHLOROETHYLENE	UG/L	<.1	.1	<.1	<1.0
V17	1,2-DICHLOROPROPANE	UG/L	<.1	<.1	<.1	<1.0
V18	CIS-1,3-DICHLOROPROPYLENE *	UG/L	<.1	<.1	<.1	<1.0
V19	TRANS-1,3-DICHLOROPROPYLENE	UG/L	<.1	<.1	<.1	<1.0
V20	ETHYLBENZENE	UG/L	<.1	<.1	<.1	<1.0
V21	BROMOMETHANE	UG/L	<.1	<.1	<.1	<1.0
V22	CHLOROMETHANE	UG/L	<.1	<.1	<.1	<1.0
V23	METHYLENE CHLORIDE	UG/L	<.1	<.1	<.1	1.5
V25	TETRACHLORETHYLENE **	UG/L	<.1	.1	.1	<1.0
V26	TOLUENE	UG/L	<.1	<.1	<.1	<1.0
V27	TRANS-1,2-DICHLOROETHYLENE	UG/L	<.1	2.7	.5	<1.0
V28	1,1,1-TRICHLOROETHANE	UG/L	1.3	1.7	<1.0	<1.0
V30	TRICHLOROETHYLENE	UG/L	15.4	38.8	13.3	<1.0
V31	TRICHLOROFLUOROMETHANE	UG/L	<.1	<.1	<.1	<1.0
V32	VINYL CHLORIDE	UG/L	<.1	<.1	<.1	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

* CHLORODIBROMOMETHANE AND/OR 1,1,2-TRICHLOROETHANE AND/OR CIS-1,3-DICHLOROPROPYLENE.

** 1,1,2,2-TETRACHLOROETHANE AND/OR TETRACHLORETHYLENE.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS DATA

OCT 26, 1984

		HRW-4320 02/23/84	UNB-0560 02/23/84	UNB-0730 02/23/84	UNB-0730 05/31/84
		N402667 /N402673	N402663 /N402669	N402676 /N402678	N408639 /N408642
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B2	ACENAPHTHYLENE	UG/L	NT	NT	<10.0	<10.0
B3	ANTHRACENE	UG/L	NT	NT	<10.0	<10.0
B4	BENZIDINE	UG/L	NT	NT	<10.0	<10.0
B5	BENZO (A) ANTHRACENE	UG/L	NT	NT	<10.0	<10.0
B6	BENZO (A) PYRENE	UG/L	NT	NT	<10.0	<10.0
B8	BENZO (GHI) PERYLENE	UG/L	NT	NT	<25.0	<25.0
B9	BENZO (K) FLUORANTHENE	UG/L	NT	NT	<10.0	<10.0
B10	BIS (2-CHLOROETHOXY) METHANE	UG/L	NT	NT	<10.0	<10.0
B11	BIS (2-CHLOROETHYL) ETHER	UG/L	NT	NT	<10.0	<10.0
B12	BIS(2-CHLOROISOPROPYL) ETHER	UG/L	NT	NT	<10.0	<10.0
B13	BIS (2-ETHYLHEXYL) PHTHALATE	UG/L	NT	NT	<10.0	<10.0
B14	4-BROMOPHENYL PHENYL ETHER	UG/L	NT	NT	<10.0	<10.0
B15	BUTYL BENZYL PHTHALATE	UG/L	NT	NT	<10.0	<10.0
B16	2-CHORONAPHTHALENE	UG/L	NT	NT	<10.0	<10.0
B17	4-CHOROPHENYL PHENYL ETHER	UG/L	NT	NT	<10.0	<10.0
B18	CHRYSENE	UG/L	NT	NT	<10.0	<10.0
B19	DIBENZO (A,H) ANTHRACENE	UG/L	NT	NT	<10.0	<10.0
B20	1,2-DICHLOROBENZENE	UG/L	<.1	<.1	<.1	<10.0
B21	1,3-DICHLOROBENZENE	UG/L	<.1	<.1	<.1	<1.0 <10.0
B22	1,4-DICHLOROBENZENE	UG/L	<.1	<.1	<.1	<1.0 <10.0
B23	3,3'-DICHLOROBENZIDINE	UG/L	NT	NT	<10.0	<1.0 <10.0
B24	DIETHYL PHTHALATE	UG/L	NT	NT	<10.0	<10.0
B25	DIMETHYL PHTHALATE	UG/L	NT	NT	<10.0	<10.0
B26	DI-N-BUTYL PHTHALATE	UG/L	NT	NT	<10.0	<10.0
B27	2,4-DINITROTOLUENE	UG/L	NT	NT	<10.0	<10.0
B28	2,6-DINITROTOLUENE	UG/L	NT	NT	<10.0	<10.0
B29	DI-N-OCTYL PHTHALATE	UG/L	NT	NT	<10.0	<10.0
B30	1,2-DIPHENYLHYDRAZINE	UG/L	NT	NT	<10.0	<10.0
B31	FLUORANTHENE	UG/L	NT	NT	<10.0	<10.0
B32	FLUORENE	UG/L	NT	NT	<10.0	<10.0
B33	HEXACHLOROBENZENE	UG/L	NT	NT	<10.0	<10.0
B34	HEXACHLOROBUTADIENE	UG/L	NT	NT	<10.0	<10.0
B35	HEXACHLOROCYCLOPENTADIENE	UG/L	NT	NT	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

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59

000303

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SEEPS DATA

	HRW-4320	UNB-0560	UNB-0730	UNB-0730
	02/23/84	02/23/84	02/23/84	05/31/84
	N402667 /N402673	N402663 /N402669	N402676 /N402678	N408639 /N408642

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B36	HEXACHLOROETHANE	UG/L	NT	NT	<10.0	<10.0
B37	INDENO (1,2,3-CD) PYRENE	UG/L	NT	NT	<25.0	<25.0
B38	ISOPHORONE	UG/L	NT	NT	<10.0	<10.0
B39	NAPHTHALENE	UG/L	NT	NT	<10.0	<10.0
B40	NITROBENZENE	UG/L	NT	NT	<10.0	<10.0
B41	N-NITROSODIMETHYLAMINE	UG/L	NT	NT	<10.0	<10.0
B42	N-NITROSODI-N-PROPYLAMINE	UG/L	NT	NT	<10.0	<10.0
B43	N-NITROSODIPHENYLAMINE	UG/L	NT	NT	<10.0	<10.0
B44	PHENANTHRENE	UG/L	NT	NT	<10.0	<10.0
B45	PYRENE	UG/L	NT	NT	<10.0	<10.0
B46	1,2,4-TRICHLOROBENZENE	UG/L	NT	NT	<10.0	<10.0
B47	BENZO(B) FLUORANTHENE	UG/L	NT	NT	<10.0	<10.0

CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS

A1	2-CHLOROPHENOL	UG/L	NT	NT	<25.0	<25.0
A2	2,4-DICHLOROPHENOL	UG/L	NT	NT	<25.0	<25.0
A3	2,4-DIMETHYLPHENOL	UG/L	NT	NT	<25.0	<25.0
A4	4,6-DINITRO-O-CRESOL	UG/L	NT	NT	<250.0	<250.0
A5	2,4-DINITROPHENOL	UG/L	NT	NT	<250.0	<250.0
A6	2-NITROPHENOL	UG/L	NT	NT	<25.0	<25.0
A7	4-NITROPHENOL	UG/L	NT	NT	<25.0	<25.0
A8	P-CHLORO-M-CRESOL	UG/L	NT	NT	<25.0	<25.0
A9	PENTACHLOROPHENOL	UG/L	NT	NT	<25.0	<25.0
A10	PHENOL	UG/L	NT	NT	<25.0	<25.0
A11	2,4,6-TRICHLOROPHENOL	UG/L	NT	NT	<25.0	<25.0

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS

P1	ALDRIN	UG/L	NT	NT	<10.0	<10.0
P2	ALPHA-BHC	UG/L	NT	NT	<10.0	<10.0
P3	BETA-BHC	UG/L	NT	NT	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEEPS DATA

OCT 26, 1984

	HRW-4320 02/23/84	UNB-0560 02/23/84	UNB-0730 02/23/84	UNB-0730 05/31/84
	N402667 /N402673	N402663 /N402669	N402676 /N402678	N408639 /N408642
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS				
P4 GAMMA-BHC	UG/L	NT	NT	<10.0	<10.0
P5 DELTA-BHC	UG/L	NT	NT	<10.0	<10.0
P6 CHLORDANE	UG/L	NT	NT	<10.0	<10.0
P7 4,4'-DDT	UG/L	NT	NT	<10.0	<10.0
P8 4,4'-DDE	UG/L	NT	NT	<10.0	<10.0
P9 4,4'-DDD	UG/L	NT	NT	<10.0	<10.0
P10 DIELDRIN	UG/L	NT	NT	<10.0	<10.0
P11 ALPHA-ENDOSULFAN	UG/L	NT	NT	<10.0	<10.0
P12 BETA-ENDOSULFAN	UG/L	NT	NT	<10.0	<10.0
P13 ENDOSULFAN SULFATE	UG/L	NT	NT	<10.0	<10.0
P14 ENDRIN	UG/L	NT	NT	<10.0	<10.0
P15 ENDRIN ALDEHYDE	UG/L	NT	NT	<10.0	<10.0
P16 HEPTACHLOR	UG/L	NT	NT	<10.0	<10.0
P17 HEPTACHLOR EPOXIDE	UG/L	NT	NT	<10.0	<10.0
P18 PCB-1242	UG/L	NT	NT	<10.0	<10.0
P19 PCB-1254	UG/L	NT	NT	<10.0	<10.0
P20 PCB-1221	UG/L	NT	NT	<10.0	<10.0
P21 PCB-1232	UG/L	NT	NT	<10.0	<10.0
P22 PCB-1248	UG/L	NT	NT	<10.0	<10.0
P23 PCB-1260	UG/L	NT	NT	<10.0	<10.0
P24 PCB-1016	UG/L	NT	NT	<10.0	<10.0
P25 TOXAPHENE	UG/L	NT	NT	<10.0	<10.0
P26 2,4-D	UG/L	NT	NT	<1.0	<1.0
P27 2,4,5-TP	UG/L	NT	NT	<.5	<.5
CATEGORY 5 PARAMETERS				
C53 GROSS A RADIOACTIVITY	PC I/L	NT	NT	74.0	<2.0
C55 GROSS B RADIOACTIVITY	PC I/L	NT	NT	73.0	<3.0
C57 TOTAL RADIUM	PC I/L	NT	NT	7.0	<1.0

NT - NOT TESTED AS PART OF THIS STUDY.

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APPENDIX F5

STREAM SEDIMENT RESULTS

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SEDIMENTS

HRM-0215	HRM-0215	HRM-1620	HRM-1620
11/23/83	05/24/84	11/23/83	05/24/84
N315176 /	N408343 /	N315175 /	N408342 /

CATEGORY 1 PARAMETERS

C6	PH	SU	6.1	6.2	6.8	6.4

CATEGORY 2 PARAMETERS

C64	BARIUM	MG/KG	64.5	NT	8.75	NT
C66	SULFIDE	MG/KG	83.0	4.0	450.0	32.0
C97	BORON	MG/KG	.84	.4	.92	.6
C98	CHLORIDE	MG/KG	51.5	9.4	41.9	28.1
C99	FLUORIDE	MG/KG	1.52	<.81	1.94	<.68
C100	IRON	MG/KG	3563.0	7240.0	15700.0	15800.0
C102	POTASSIUM	MG/KG	180.0	1290.0	755.0	570.0
C104	MANGANESE	MG/KG	106.0	82.5	425.0	1006.0
C105	SODIUM	MG/KG	127.0	<5.2	71.3	11.9
C106	NITROGEN, AMMONIA	MG/KG	22.5	7.39	57.4	58.8
C108	NITRATE AS N	MG/KG	4.87	63.9	4.57	139.0
C109	TIN	MG/KG	<38.0	<9.71	<38.0	<8.64
C110	SULFATE AS SO4	MG/KG	195.96	4.0	242.28	17.2
C112	PHOSPHATE, TOTAL AS P	MG/KG	406.0	1.45	157.0	2.72

CATEGORY 3 PARAMETERS

C65	SURFACTANTS	MG/KG	.022	.24	.025	.69
C67	OIL & GREASE	MG/KG	.36	<1.0	1.18	<1.0
C115	METHYL ETHYL KETONE	MG/KG	<.1	<.1	<.1	<.1
C116	ISOBUTYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
C117	N-BUTYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
C118	ISOPROPYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
C119	ETHANOL	MG/KG	<.1	<.1	<.1	<.1
C120	BUTYL METHACRYLATE	MG/KG	<10.0	<10.0	<10.0	<10.0
C121	METHYL METHACRYLATE	MG/KG	<.1	<.1	<.1	<.1
C122	ETHYL ACRYLATE	MG/KG	<.1	<.1	<.1	<.1
C123	BUTYL ACRYLATE	MG/KG	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

C006000

62

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SEDIMENTS

000906

			HRM-0215 11/23/83 N315176 /	HRM-0215 05/24/84 N408343 /	HRM-1620 11/23/83 N315175 /	HRM-1620 05/24/84 N408342 /
		CATEGORY 3 PARAMETERS				
C124	STYRENE	MG/KG	<.1	<.1	<.1	<.1
C125	ACETONE	MG/KG	<.1	<.1	<.1	<.1
C126	ETHYL ACETATE	MG/KG	<.1	<.1	<.1	<.1
C127	CELLUSOLVE ACETATE	MG/KG	<.1	<.1	<.1	<.1
C128	BUTYL CELLUSOLVE	MG/KG	<.1	<.1	<.1	<.1
C130	LETHANE	MG/KG	<.01	<.01	<.001	<.01
C131	KARATHANE	MG/KG	<.01	<.01	<.01	<.01
C132	DNCP	MG/KG	<.01	<.01	<.01	<.01
C211	TOLUENE	MG/KG	NT	<.1	NT	<.1
		CATEGORY 4 - OTHER PARAMETERS				
T16	SILVER (GF)	MG/KG	<1.0	.03	<1.0	.05
T17	ARSENIC	MG/KG	1.55	1.8	8.0	.8
T18	BERYLLIUM	MG/KG	<.5	.1	<.5	.09
T19	CADMIUM	MG/KG	.5	.1	<.5	.26
T20	CYANIDE	MG/KG	<.069	<.099	<.074	.202
T21	CHROMIUM	MG/KG	6.18	8.06	4.36	4.58
T22	COPPER	MG/KG	9.09	7.28	9.09	11.1
T23	MERCURY	MG/KG	<.07	.1	.02	<.1
T24	LEAD	MG/KG	10.5	12.3	2990.0	22.7
T25	PHENOLS	MG/KG	.748	.435	.904	.434
T26	ANTIMONY	MG/KG	<8.5	<1.2	<8.5	<1.3
T27	SELENIUM	MG/KG	<.05	<.01	<.05	.009
T28	THALLIUM	MG/KG	<15.0	<2.9	<15.0	<2.6
T29	ZINC	MG/KG	96.0	63.2	114.0	112.0
T30	NICKEL	MG/KG	9.97	11.2	11.6	8.72
		CATEGORY 4 - VOLATILE ONGANIC PARAMETERS				
V101	CHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V102	VINYL CHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS

OCT 26, 1984

		HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
		N315176 /	N408343 /	N315175 /	N408342 /
	CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V103	CHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V104	BROMOMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V105	ACROLEIN	UG/KG	<100.0	<100.0	<100.0	<100.0
V106	ACRYLONITRILE	UG/KG	<100.0	<100.0	<100.0	<100.0
V107	METHYLENE CHLORIDE	UG/KG	<10.0	<10.0	15.0	480.0
V108	TRICHLOROFLUOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V109	1,1-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V110	1,1-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V111	1,2-TRANS-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V112	CHLOROFORM	UG/KG	<10.0	<10.0	<10.0	<10.0
V113	1,2-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V114	1,1,1-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V115	CARBON TETRACHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0
V116	BROMODICHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V117	1,2-DICHLOROPROPANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V118	TRANS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V119	TRICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V120	BENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V121	CIS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V122	1,1,2-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V123	DIBROMOCHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V124	BROMOFORM	UG/KG	<10.0	<10.0	<10.0	<10.0
V125	TETRACHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V126	1,1,2,2-TETRACHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V127	TOLUENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V128	CHLOROBENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V129	ETHYLBENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V130	2-CHLOROETHYL VINYL ETHER	UG/KG	<10.0	<10.0	<10.0	<10.0
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B101	N-NITROSODIMETHYLAMINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B102	BIS (2-CHLOROETHYL) ETHER	UG/KG	<200.0	<200.0	<200.0	<600.0
B103	1,3-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS

OCT 26, 1984

			HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
			N315176 /	N408343 /	N315175 /	N408342 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B104	1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B105	1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B106	BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0	<200.0	<600.0
B107	HEXACHLOROETHANE	UG/KG	<200.0	<200.0	<200.0	<600.0
B108	N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B109	NITROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B110	ISOPHORONE	UG/KG	<200.0	<200.0	<200.0	<600.0
B111	BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0	<200.0	<600.0
B112	1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B113	NAPHTHALENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B114	HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B115	HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B116	2-CHORONAPHTHALENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B117	DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B118	ACENAPHTHYLENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B119	2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B120	ACENAPHTHENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B121	2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B122	DIETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B123	FLUORENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B124	4-CHOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0	<600.0
B125	N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B126	1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B127	4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0	<600.0
B128	HEXACHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B129	PHENANTHRENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B130	ANTHRACENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B131	DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B132	FLUORANTHENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B133	BENZIDINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B134	PYRENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B135	BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B136	BENZO (A) ANTHRACENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B137	3,3'-DICHLOROBENZIDINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B138	CHRYSENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SEDIMENTS

	HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
	N315176 /	N408343 /	N315175 /	N408342 /
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B140 DI-N-OCTYL PHTHALATE	<200.0	<200.0	<200.0	<600.0
B141 BENZO(B)FLOURANTHENE	<200.0	<200.0	<200.0	<600.0
B142 BENZO (K) FLUORANTHENE	<200.0	<200.0	<200.0	<600.0
B143 BENZO (A) PYRENE	<500.0	<500.0	<500.0	<600.0
B144 INDENO (1,2,3-CD) PYRENE	<500.0	<500.0	<500.0	<1600.0
B145 DIBENZO (A,H) ANTHRACENE	<500.0	<500.0	<500.0	<1600.0
B146 BENZO (GHI) PERYLENE	<500.0	<500.0	<500.0	<1600.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A101 PHENOL	<500.0	<500.0	<500.0	<500.0
A102 2-CHLOROPHENOL	<500.0	<500.0	<500.0	<500.0
A103 2-NITROPHENOL	<500.0	<500.0	<500.0	<500.0
A104 2,4-DIMETHYLPHENOL	<500.0	<500.0	<500.0	<500.0
A105 2,4-DICHLOROPHENOL	<500.0	<500.0	<500.0	<500.0
A106 P-CHLORO-M-CRESOL	<500.0	<500.0	<500.0	<500.0
A107 2,4,6-TRICHLOROPHENOL	<500.0	<500.0	<500.0	<500.0
A108 2,4-DINITROPHENOL	<5000.0	<5000.0	<5000.0	<5000.0
A109 4-NITROPHENOL	<500.0	<500.0	620.0	<500.0
A110 4,6-DINITRO-O-CRESOL	<5000.0	<5000.0	<5000.0	<5000.0
A111 PENTACHLOROPHENOL	<500.0	<500.0	<500.0	<500.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS				
P101 ALDRIN	<200.0	<200.0	<200.0	<600.0
P102 ALPHA-BHC	<200.0	<200.0	<200.0	<600.0
P103 BETA-BHC	<200.0	<200.0	<200.0	<600.0
P104 GAMMA-BHC	<200.0	<200.0	<200.0	<600.0
P105 DELTA-BHC	<200.0	<200.0	<200.0	<600.0
P106 CHLORDANE	<200.0	<200.0	<200.0	<600.0
P107 4,4'-DDT	<200.0	<200.0	<200.0	<600.0
P108 4,4'-DDE	<200.0	<200.0	<200.0	<600.0

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SEDIMENTS

	HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
	N315176 /	N408343 /	N315175 /	N408342 /

CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS

P109	4,4'-DDD	UG/KG	<200.0	<200.0	<200.0	<600.0
P110	DIELDRIN	UG/KG	<200.0	<200.0	<200.0	<600.0
P111	ALPHA-ENDOSULFAN	UG/KG	<200.0	<200.0	<200.0	<600.0
P112	BETA-ENDOSULFAN	UG/KG	<200.0	<200.0	<200.0	<600.0
P113	ENDOSULFAN SULFATE	UG/KG	<200.0	<200.0	<200.0	<600.0
P114	ENDRIN	UG/KG	<200.0	<200.0	<200.0	<600.0
P115	ENDRIN ALDEHYDE	UG/KG	<200.0	<200.0	<200.0	<600.0
P116	HEPTACHLOR	UG/KG	<200.0	<200.0	<200.0	<600.0
P117	HEPTACHLOR EPOXIDE	UG/KG	<200.0	<200.0	<200.0	<600.0
P118	PCB-1242	UG/KG	<200.0	<200.0	<200.0	<600.0
P119	PCB-1254	UG/KG	<200.0	<200.0	<200.0	<600.0
P120	PCB-1221	UG/KG	<200.0	<200.0	<200.0	<600.0
P121	PCB-1232	UG/KG	<200.0	<200.0	<200.0	<600.0
P122	PCB-1248	UG/KG	<200.0	<200.0	<200.0	<600.0
P123	PCB-1260	UG/KG	<200.0	<200.0	<200.0	<600.0
P124	PCB-1016	UG/KG	<200.0	<200.0	<200.0	<600.0
P125	TOXAPHENE	UG/KG	<200.0	<200.0	<200.0	<600.0
P126	2,4-D	UG/KG	<.2	<2.0	<.2	<2.0
P127	2,4,5-TP	UG/KG	<.1	<1.0	<.1	<1.0

CATEGORY 5 PARAMETERS

C53	GROSS A RADIOACTIVITY	PC I/L	NT	2.0	NT	7.0
C55	GROSS B RADIOACTIVITY	PC I/L	NT	4.0	NT	7.0
C57	TOTAL RADIUM	PC I/L	1.2	<1.0	3.0	<1.0

NT=NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 31, 1984

SEDIMENTS

			HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
			N315176 /	N408343 /	N315175 /	N408342 /
	CATEGORY 1 PARAMETERS					
C6	PH	SU	6.1	6.2	6.8	6.4
	CATEGORY 2 PARAMETERS					
C64	BARIUM	MG/KG	64.5	NT	8.75	NT
C66	SULFIDE	MG/KG	83.0	4.0	450.0	32.0
C97	BORON	MG/KG	.84	.4	.92	.6
C98	CHLORIDE	MG/KG	51.5	9.4	41.9	28.1
C99	FLUORIDE	MG/KG	1.52	<.81	1.94	<.68
C100	IRON	MG/KG	3563.0	7240.0	15700.0	15800.0
C102	POTASSIUM	MG/KG	180.0	1290.0	755.0	570.0
C104	MANGANESE	MG/KG	106.0	82.5	425.0	1006.0
C105	SODIUM	MG/KG	127.0	<5.2	71.3	11.9
C106	NITROGEN, AMMONIA	MG/KG	22.5	7.39	57.4	58.8
C108	NITRATE AS N	MG/KG	4.87	63.9	4.57	139.0
C109	TIN	MG/KG	<38.0	<9.71	<38.0	<8.64
C110	SULFATE AS SO4	MG/KG	195.96	4.0	242.28	17.2
C112	PHOSPHATE, TOTAL AS P	MG/KG	406.0	1.45	157.0	2.72
	CATEGORY 3 PARAMETERS					
C65	SURFACTANTS	MG/KG	.022	.24	.025	.69
C67	OIL & GREASE	MG/KG	.36	<1.0	1.18	<1.0
C115	METHYL ETHYL KETONE	MG/KG	<.1	<.1	<.1	<.1
C116	ISOBUTYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
C117	N-BUTYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
C118	ISOPROPYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
C119	ETHANOL	MG/KG	<.1	<.1	<.1	<.1
C120	BUTYL METHACRYLATE	MG/KG	<10.0	<10.0	<10.0	<10.0
C121	METHYL METHACRYLATE	MG/KG	<.1	<.1	<.1	<.1
C122	ETHYL ACRYLATE	MG/KG	<.1	<.1	<.1	<.1

NT-NOT TESTED AS PART OF THIS STUDY

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ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS

OCT 31, 1984

			HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
			N315176 /	N408343 /	N315175 /	N408342 /
		CATEGORY 3 PARAMETERS				
C123	BUTYL ACRYLATE	MG/KG	<.1	<.1	<.1	<.1
C124	STYRENE	MG/KG	<.1	<.1	<.1	<.1
C125	ACETONE	MG/KG	<.1	<.1	<.1	<.1
C126	ETHYL ACETATE	MG/KG	<.1	<.1	<.1	<.1
C127	CELLUSOLVE ACETATE	MG/KG	<.1	<.1	<.1	<.1
C128	BUTYL CELLUSOLVE	MG/KG	<.1	<.1	<.1	<.1
C130	LETHANE	MG/KG	<.01	<.01	<.001	<.01
C131	KARATHANE	MG/KG	<.01	<.01	<.01	<.01
C132	DNCP	MG/KG	<.01	<.01	<.01	<.01
C211	TOLUENE	MG/KG	NT	<.1	NT	<.1
		CATEGORY 4 - OTHER PARAMETERS				
T16	SILVER (GF)	MG/KG	<1.0	.03	<1.0	.05
T17	ARSENIC	MG/KG	1.55	1.8	8.0	.8
T18	BERYLLIUM	MG/KG	<.5	.1	<.5	.09
T19	CADMIUM	MG/KG	.5	.1	<.5	.26
T20	CYANIDE	MG/KG	<.069	<.099	<.074	.202
T21	CHROMIUM	MG/KG	6.18	8.06	4.36	4.58
T22	COPPER	MG/KG	9.09	7.28	9.09	11.1
T23	MERCURY	MG/KG	<.07	.1	.02	<.1
T24	LEAD	MG/KG	10.5	12.3	2990.0	22.7
T25	PHENOLS	MG/KG	.748	.435	.904	.434
T26	ANTIMONY	MG/KG	<8.5	<1.2	<8.5	<1.3
T27	SELENIUM	MG/KG	<.05	<.01	<.05	.009
T28	THALLIUM	MG/KG	<15.0	<2.9	<15.0	<2.6
T29	ZINC	MG/KG	96.0	63.2	114.0	112.0
T30	NICKEL	MG/KG	9.97	11.2	11.6	8.72

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 31, 1984
SEDIMENTS

	HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
	N315176 /	N408343 /	N315175 /	N408342 /
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V102 VINYL CHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0
V103 CHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V104 BROMOMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V105 ACROLEIN	UG/KG	<100.0	<100.0	<100.0	<100.0
V106 ACRYLONITRILE	UG/KG	<100.0	<100.0	<100.0	<100.0
V107 METHYLENE CHLORIDE	UG/KG	<10.0	<10.0	15.0	480.0
V108 TRICHLOROFLUOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V109 1,1-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V110 1,1-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V111 1,2-TRANS-DICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V112 CHLOROFORM	UG/KG	<10.0	<10.0	<10.0	<10.0
V113 1,2-DICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V114 1,1,1-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V115 CARBON TETRACHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0
V116 BROMODICHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V117 1,2-DICHLOROPROPANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V118 TRANS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V119 TRICHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V120 BENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V121 CIS-1,3-DICHLOROPROPENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V122 1,1,2-TRICHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V123 DIBROMOCHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V124 BROMOFORM	UG/KG	<10.0	<10.0	<10.0	<10.0
V125 TETRACHLOROETHYLENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V126 1,1,2,2-TETRACHLOROETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V127 TOLUENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V128 CHLOROBENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V129 ETHYLBENZENE	UG/KG	<10.0	<10.0	<10.0	<10.0
V130 2-CHLOROETHYL VINYL ETHER	UG/KG	<10.0	<10.0	<10.0	<10.0

000913

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 31, 1984
SEDIMENTS

000914

	HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
	N315176 /	N408343 /	N315175 /	N408342 /
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B102 BIS (2-CHLOROETHYL) ETHER	UG/KG	<200.0	<200.0	<200.0	<600.0
B103 1,3-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B104 1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B105 1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B106 BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0	<200.0	<600.0
B107 HEXACHLOROETHANE	UG/KG	<200.0	<200.0	<200.0	<600.0
B108 N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B109 NITROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B110 ISOPHORONE	UG/KG	<200.0	<200.0	<200.0	<600.0
B111 BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0	<200.0	<600.0
B112 1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B113 NAPHTHALENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B114 HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B115 HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B116 2-CHORONAPHTHALENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B117 DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B118 ACENAPHTHYLENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B119 2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B120 ACENAPHTHENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B121 2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B122 DIETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B123 FLUORENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B124 4-CHOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0	<600.0
B125 N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B126 1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B127 4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0	<600.0
B128 HEXACHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B129 PHENANTHRENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B130 ANTHRACENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B131 DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B132 FLUORANTHENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B133 BENZIDINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B134 PYRENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B135 BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B136 BENZO (A) ANTHRACENE	UG/KG	<200.0	<200.0	<200.0	<600.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS

OCT 31, 1984

			HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
			N315176 /	N408343 /	N315175 /	N408342 /
	CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS					
B137	3,3'-DICHLOROVENZIDINE	UG/KG	<200.0	<200.0	<200.0	<600.0
B138	CHRYSENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B140	DI-N-OCTYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<600.0
B141	BENZO(B)FLOURANTHENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B142	BENZO (K) FLUORANTHENE	UG/KG	<200.0	<200.0	<200.0	<600.0
B143	BENZO (A) PYRENE	UG/KG	<500.0	<500.0	<500.0	<600.0
B144	INDENO (1,2,3-CD) PYRENE	UG/KG	<500.0	<500.0	<500.0	<1600.0
B145	DIBENZO (A,H) ANTHRACENE	UG/KG	<500.0	<500.0	<500.0	<1600.0
B146	BENZO (GHI) PERYLENE	UG/KG	<500.0	<500.0	<500.0	<1600.0
	CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS					
A101	PHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A102	2-CHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A103	2-NITROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A104	2,4-DIMETHYLPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A105	2,4-DICHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A106	P-CHLORO-M-CRESOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A107	2,4,6-TRICHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
A108	2,4-DINITROPHENOL	UG/KG	<5000.0	<5000.0	<5000.0	<5000.0
A109	4-NITROPHENOL	UG/KG	<500.0	<500.0	620.0	<500.0
A110	4,6-DINITRO-O-CRESOL	UG/KG	<5000.0	<5000.0	<5000.0	<5000.0
A111	PENTACHLOROPHENOL	UG/KG	<500.0	<500.0	<500.0	<500.0
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P101	ALDRIN	UG/KG	<200.0	<200.0	<200.0	<600.0
P102	ALPHA-BHC	UG/KG	<200.0	<200.0	<200.0	<600.0
P103	BETA-BHC	UG/KG	<200.0	<200.0	<200.0	<600.0
P104	GAMMA-BHC	UG/KG	<200.0	<200.0	<200.0	<600.0

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000916

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS

OCT 31, 1984

			HRM-0215 11/23/83	HRM-0215 05/24/84	HRM-1620 11/23/83	HRM-1620 05/24/84
			N315176 /	N408343 /	N315175 /	N408342 /
	CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDES PARAMETERS					
P105	DELTA-BHC	UG/KG	<200.0	<200.0	<200.0	<600.0
P106	CHLORDANE	UG/KG	<200.0	<200.0	<200.0	<600.0
P107	4,4'-DDT	UG/KG	<200.0	<200.0	<200.0	<600.0
P108	4,4'-DDE	UG/KG	<200.0	<200.0	<200.0	<600.0
P109	4,4'-DDD	UG/KG	<200.0	<200.0	<200.0	<600.0
P110	DIELDRIN	UG/KG	<200.0	<200.0	<200.0	<600.0
P111	ALPHA-ENDOSULFAN	UG/KG	<200.0	<200.0	<200.0	<600.0
P112	BETA-ENDOSULFAN	UG/KG	<200.0	<200.0	<200.0	<600.0
P113	ENDOSULFAN SULFATE	UG/KG	<200.0	<200.0	<200.0	<600.0
P114	ENDRIN	UG/KG	<200.0	<200.0	<200.0	<600.0
P115	ENDRIN ALDEHYDE	UG/KG	<200.0	<200.0	<200.0	<600.0
P116	HEPTACHLOR	UG/KG	<200.0	<200.0	<200.0	<600.0
P117	HEPTACHLOR EPOXIDE	UG/KG	<200.0	<200.0	<200.0	<600.0
P118	PCB-1242	UG/KG	<200.0	<200.0	<200.0	<600.0
P119	PCB-1254	UG/KG	<200.0	<200.0	<200.0	<600.0
P120	PCB-1221	UG/KG	<200.0	<200.0	<200.0	<600.0
P121	PCB-1232	UG/KG	<200.0	<200.0	<200.0	<600.0
P122	PCB-1248	UG/KG	<200.0	<200.0	<200.0	<600.0
P123	PCB-1260	UG/KG	<200.0	<200.0	<200.0	<600.0
P124	PCB-1016	UG/KG	<200.0	<200.0	<200.0	<600.0
P125	TOXAPHENE	UG/KG	<200.0	<200.0	<200.0	<600.0
P126	2,4-D	UG/KG	<.2	<2.0	<.2	<2.0
P127	2,4,5-TP	UG/KG	<.1	<1.0	<.1	<1.0
	CATEGORY 5 PARAMETERS					
C53	GROSS A RADIOACTIVITY	PC I/L	NT	2.0	NT	7.0
C55	GROSS B RADIOACTIVITY	PC I/L	NT	4.0	NT	7.0
C57	TOTAL RADIUM	PC I/L	1.2	<1.0	3.0	<1.0

NT-NOT TESTED AS PART OF THIS STUDY

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SEDIMENTS DATA

		HRM-2170 11/23/83	HRM-2170 05/29/84	HRE-3980 05/24/84	HRM-4031 05/31/84
		N315174 /	N408466 /	N408344 /	N408637 /
	CATEGORY 1 PARAMETERS				
C6	PH	SU	5.8	6.2	6.0	5.5
	CATEGORY 2 PARAMETERS					
C64	BARIUM	MG/KG	65.0	NT	NT	NT
C66	SULFIDE	MG/KG	62.0	<2.0	16.0	3860.0
C97	BORON	MG/KG	.68	.4	.2	.6
C98	CHLORIDE	MG/KG	37.6	18.7	9.4	70.2
C99	FLUORIDE	MG/KG	.749	<.68	<.77	<1.0
C100	IRON	MG/KG	2981.0	5400.0	4320.0	2870.0
C102	POTASSIUM	MG/KG	189.0	227.0	69.0	117.0
C104	MANGANESE	MG/KG	413.0	283.0	493.0	11.6
C105	SODIUM	MG/KG	183.0	91.4	6.7	36.4
C106	NITROGEN, AMMONIA	MG/KG	6.12	14.1	16.6	113.0
C108	NITRATE AS N	MG/KG	5.38	6.4	1.1	<.5
C109	TIN	MG/KG	<38.0	<8.09	<8.1	<10.1
C110	SULFATE AS SO4	MG/KG	296.33	156.0	1.37	75.4
C112	PHOSPHATE, TOTAL AS P	MG/KG	206.0	2.89	4.2	23.28
	CATEGORY 3 PARAMETERS					
C65	SURFACTANTS	MG/KG	.02	.39	.95	.87
C67	OIL & GREASE	MG/KG	.75	<1.0	<1.0	<1.0
C115	METHYL ETHYL KETONE	MG/KG	<.1	<.1	<.1	<.1
C116	ISOBUTYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
C117	N-BUTYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
C118	ISOPROPYL ALCOHOL	MG/KG	<.1	<.1	<.1	<.1
C119	ETHANOL	MG/KG	<.1	<.1	<.1	<.1
C120	BUTYL METHACRYLATE	MG/KG	<10.0	<10.0	<10.0	<10.0
C121	METHYL METHACRYLATE	MG/KG	<.1	<.1	<.1	<.1
C122	ETHYL ACRYLATE	MG/KG	NT	<.1	<.1	<.1
C123	BUTYL ACRYLATE	MG/KG	<.1	<.1	<.1	<.1

NT - NOT TESTED AS PART OF THIS STUDY.

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74

000918

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA
SEDIMENTS DATA

OCT 26, 1984

			HRM-2170 11/23/83	HRM-2170 05/29/84	HRE-3980 05/24/84	HRM-4031 05/31/84
			N315174 /	N408466 /	N408344 /	N408637 /
		CATEGORY 3 PARAMETERS				
C124	STYRENE	MG/KG	<.1	<.1	<.1	<.1
C125	ACETONE	MG/KG	<.1	<.1	<.1	<.1
C126	ETHYL ACETATE	MG/KG	<.1	<.1	<.1	<.1
C127	CELLUSOLVE ACETATE	MG/KG	<.1	<.1	<.1	<.1
C128	BUTYL CELLUSOLVE	MG/KG	<.1	<.1	<.1	<.1
C130	LETHANE	MG/KG	<.01	<.01	<.01	<.01
C131	KARATHANE	MG/KG	<.01	<.01	<.01	<.01
C132	DNCP	MG/KG	<.01	<.01	<.01	<.01
C211	TOLUENE	MG/KG	NT	<.1	<.1	<.1
		CATEGORY 4 - OTHER PARAMETERS				
T16	SILVER (GF)	MG/KG	<1.0	<.16	.02	<.2
T17	ARSENIC	MG/KG	.85	1.3	1.7	2.6
T18	BERYLLIUM	MG/KG	<.5	.4	.08	.2
T19	CADMIUM	MG/KG	<.5	<.08	.16	.2
T20	CYANIDE	MG/KG	<.071	<.079	<.087	<.095
T21	CHROMIUM	MG/KG	<2.0	5.99	3.16	3.13
T22	COPPER	MG/KG	8.15	7.28	9.08	3.36
T23	MERCURY	MG/KG	<.04	.53	3.1	.445
T24	LEAD	MG/KG	39.5	17.9	27.3	27.7
T25	PHENOLS	MG/KG	.672	<.117	.609	.973
T26	ANTIMONY	MG/KG	<8.5	<1.2	<1.3	<1.5
T27	SELENIUM	MG/KG	<.05	<.008	.016	.02
T28	THALLIUM	MG/KG	<15.0	<2.4	<2.4	<3.0
T29	ZINC	MG/KG	101.0	57.0	40.8	89.2
T30	NICKEL	MG/KG	6.76	6.6	4.2	5.2
		CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V101	CHLOROMETHANE	UG/KG	<10.0	<10.0	<10.0	<10.0
V102	VINYL CHLORIDE	UG/KG	<10.0	<10.0	<10.0	<10.0

NT - NOT TESTED AS PART OF THIS STUDY.

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SEDIMENTS DATA

	HRM-2170 11/23/83	HRM-2170 05/29/84	HRE-3980 05/24/84	HRM-4031 05/31/84
	N315174 /	N408466 /	N408344 /	N408637 /
CATEGORY 4 - VOLATILE ORGANIC PARAMETERS				
V103 CHLOROETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V104 BROMOMETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V105 ACROLEIN	UG/KG <100.0	<100.0	<100.0	<100.0
V106 ACRYLONITRILE	UG/KG <100.0	<100.0	<100.0	<100.0
V107 METHYLENE CHLORIDE	UG/KG <10.0	27.0	<10.0	<10.0
V108 TRICHLOROFLUOROMETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V109 1,1-DICHLOROETHYLENE	UG/KG <10.0	<10.0	<10.0	<10.0
V110 1,1-DICHLOROETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V111 1,2-TRANS-DICHLOROETHYLENE	UG/KG <10.0	<10.0	<10.0	<10.0
V112 CHLOROFORM	UG/KG <10.0	<10.0	<10.0	<10.0
V113 1,2-DICHLOROETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V114 1,1,1-TRICHLOROETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V115 CARBON TETRACHLORIDE	UG/KG <10.0	<10.0	<10.0	<10.0
V116 BROMODICHLOROMETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V117 1,2-DICHLOROPROPANE	UG/KG <10.0	<10.0	<10.0	<10.0
V118 TRANS-1,3-DICHLOROPROPENE	UG/KG <10.0	<10.0	<10.0	<10.0
V119 TRICHLOROETHYLENE	UG/KG <10.0	<10.0	11.0	10.0
V120 BENZENE	UG/KG <10.0	<10.0	<10.0	<10.0
V121 CIS-1,3-DICHLOROPROPENE	UG/KG <10.0	<10.0	<10.0	<10.0
V122 1,1,2-TRICHLOROETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V123 DIBROMOCHLOROMETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V124 BROMOFORM	UG/KG <10.0	<10.0	<10.0	<10.0
V125 TETRACHLOROETHYLENE	UG/KG <10.0	<10.0	<10.0	<10.0
V126 1,1,2,2-TETRACHLOROETHANE	UG/KG <10.0	<10.0	<10.0	<10.0
V127 TOLUENE	UG/KG <10.0	<10.0	<10.0	<10.0
V128 CHLOROBENZENE	UG/KG <10.0	<10.0	<10.0	<10.0
V129 ETHYLBENZENE	UG/KG <10.0	<10.0	<10.0	<10.0
V130 2-CHLOROETHYL VINYL ETHER	UG/KG <10.0	<10.0	<10.0	<10.0
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B101 N-NITROSODIMETHYLAMINE	UG/KG <200.0	<200.0	<200.0	<200.0
B102 BIS (2-CHLOROETHYL) ETHER	UG/KG <200.0	<200.0	<200.0	<200.0
B103 1,3-DICHLOROBENZENE	UG/KG <200.0	<200.0	<200.0	<200.0

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000920

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA — OCT 26, 1984
SEDIMENTS DATA

	HRM-2170	HRP-2170	HRE-3980	HRA-4031
	11/23/83	05/29/84	05/24/84	05/31/84
	N315174 /	N408466 /	N408344 /	N408637 /

CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS

B104	1,4-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B105	1,2-DICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B106	BIS(2-CHLOROISOPROPYL) ETHER	UG/KG	<200.0	<200.0	<200.0	<200.0
B107	HEXACHLOROETHANE	UG/KG	<200.0	<200.0	<200.0	<200.0
B108	N-NITROSODI-N-PROPYLAMINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B109	NITROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B110	ISOPHORONE	UG/KG	<200.0	<200.0	<200.0	<200.0
B111	BIS (2-CHLOROETHOXY) METHANE	UG/KG	<200.0	<200.0	<200.0	<200.0
B112	1,2,4-TRICHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B113	NAPHTHALENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B114	HEXACHLOROBUTADIENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B115	HEXACHLOROCYCLOPENTADIENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B116	2-CHORONAPHTHALENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B117	DIMETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B118	ACENAPHTHYLENE	UG/KG	<220.0	<200.0	<200.0	<200.0
B119	2,6-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B120	ACENAPHTHENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B121	2,4-DINITROTOLUENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B122	DIETHYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B123	FLUORENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B124	4-CHOROPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0	<200.0
B125	N-NITROSODIPHENYLAMINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B126	1,2-DIPHENYLHYDRAZINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B127	4-BROMOPHENYL PHENYL ETHER	UG/KG	<200.0	<200.0	<200.0	<200.0
B128	HEXACHLOROBENZENE	UG/KG	<200.0	<200.0	<200.0	<200.0
B129	PHENANTHRENE	UG/KG	1600.0	750.0	500.0	<200.0
B130	ANTHRACENE	UG/KG	310.0	230.0	<200.0	<200.0
B131	DI-N-BUTYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B132	FLUORANTHENE	UG/KG	2200.0	1800.0	420.0	<200.0
B133	BENZIDINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B134	PYRENE	UG/KG	1700.0	1600.0	320.0	<200.0
B135	BUTYL BENZYL PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0
B136	BENZO (A) ANTHRACENE	UG/KG	1100.0	1200.0	<200.0	<200.0
B137	3,3'-DICHLOROVENZIDINE	UG/KG	<200.0	<200.0	<200.0	<200.0
B138	CHRYSENE	UG/KG	1100.0	1000.0	<200.0	<200.0
B139	BIS (2-ETHYLHEXYL) PHTHALATE	UG/KG	<200.0	<200.0	<200.0	<200.0

ROHM AND HAAS LANDFILL BRISTOL, PENNSYLVANIA OCT 26, 1984
SEDIMENTS DATA

	HRM-2170 11/23/83	HRM-2170 05/29/84	HRE-3980 05/24/84	HRM-4031 05/31/84
	N315174 /	N408466 /	N408344 /	N408637 /
CATEGORY 4 - BASE/NEUTRAL ORGANIC PARAMETERS				
B140 DI-N-OCTYL PHTHALATE	UG/KG <200.0	<200.0	<200.0	<200.0
B141 BENZO(B)FLOURANTHENE	UG/KG 860.0	1400.0	<200.0	<200.0
B142 BENZO (K) FLUORANTHENE	UG/KG 940.0	930.0	<200.0	220.0
B143 BENZO (A) PYRENE	UG/KG 1100.0	1800.0	<200.0	<500.0
B144 INDENO (1,2,3-CD) PYRENE	UG/KG <500.0	1600.0	<500.0	<500.0
B145 DIBENZO (A,H) ANTHRACENE	UG/KG <500.0	540.0	<500.0	<500.0
B146 BENZO (GHI) PERYLENE	UG/KG <500.0	1500.0	<500.0	<500.0
CATEGORY 4 - ACID EXTRACTABLE ORGANIC PARAMETERS				
A101 PHENOL	UG/KG <500.0	<500.0	<500.0	<500.0
A102 2-CHLOROPHENOL	UG/KG <500.0	<500.0	<500.0	<500.0
A103 2-NITROPHENOL	UG/KG <500.0	<500.0	<500.0	<500.0
A104 2,4-DIMETHYLPHENOL	UG/KG <500.0	<500.0	<500.0	<500.0
A105 2,4-DICHLOROPHENOL	UG/KG <500.0	<500.0	<500.0	<500.0
A106 P-CHLORO-M-CRESOL	UG/KG <500.0	<500.0	<500.0	<500.0
A107 2,4,6-TRICHLOROPHENOL	UG/KG <500.0	<500.0	<500.0	<500.0
A108 2,4-DINITROPHENOL	UG/KG <5000.0	<5000.0	<5000.0	<5000.0
A109 4-NITROPHENOL	UG/KG <500.0	<500.0	<500.0	<500.0
A110 4,6-DINITRO-O-CRESOL	UG/KG <5000.0	<5000.0	<5000.0	<5000.0
A111 PENTACHLOROPHENOL	UG/KG <500.0	<500.0	<500.0	<500.0
CATEGORY 4 - PESTICIDES, PCB'S AND HERBICIDE PARAMETERS				
P101 ALDRIN	UG/KG <200.0	<200.0	<200.0	<200.0
P102 ALPHA-BHC	UG/KG <200.0	<200.0	<200.0	<200.0
P103 BETA-BHC	UG/KG <200.0	<200.0	<200.0	<200.0
P104 GAMMA-BHC	UG/KG <200.0	<200.0	<200.0	<200.0
P105 DELTA-BHC	UG/KG <200.0	<200.0	<200.0	<200.0
P106 CHLORDANE	UG/KG <200.0	<200.0	<200.0	<200.0
P107 4,4'-DDT	UG/KG <200.0	<200.0	<200.0	<200.0
P108 4,4'-DDE	UG/KG <200.0	<200.0	<200.0	<200.0

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