Honeywell, Inc. (formerly AlliedSignal, Inc.)
Morristown, New Jersey

Remedial Action Report
Areas 1, 1A, and 5 – Block 105.01, Lot 8
UOP Uplands Site Remediation
East Rutherford, New Jersey

ENSR Corporation
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CONTENTS

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1-1

1.1 Background 1-1

1.2 Areas 1, 1A, and 5 RAR 1-1

1.3 Separating Areas 1, 1A, and 5 for Site Closure 1-2

1.4 Site Characterization Summary 1-2

1.4.1 Remedial Investigation and Feasibility Study 1-2

1.4.2 Supplemental Investigation 1-3

1.4.3 Risk Assessment 1-4

1.5 CERCLA Compliance 1-4

1.5.1 Record of Decision 1-4

1.6 ROD Amendment 1-6

1.7 Requirements for Site Remediation 1-7

1.7.1 Remedial Action Work Plan 1-7

1.8 List of Supporting References 1-8

2.0 ENGINEERING AND PERMITTING 2-1

2.1 Pre-Remediation Estimates 2-1

2.1.1 Drawings and Specifications 2-1

2.2 Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) 2-2

2.3 Permits 2-2

3.0 SITE PREPARATION AND MOBILIZATION 3-1

3.1 Site Access and Layout 3-1

3.2 Health, Safety, and Environment 3-1

3.2.1 Soil Erosion and Sediment Control 3-1

3.2.2 Air Monitoring 3-2

3.2.3 Storm Water Management 3-3
3.2.4 Monitoring Well Abandonment 3-3
3.2.5 Monitoring Well Installation 3-4

4.0 FINDINGS/REMEDIAL ACTION 4-1

4.1 Work Sequence 4-1

4.2 Soil Excavation Operations 4-2
4.2.1 PCB/cPAH Soil 4-3
4.2.2 VOC Soil 4-3
4.2.3 Lead Soil 4-4
4.2.4 Soil Sampling and Analytical Results 4-4

4.3 Sewer Network 4-5
4.3.1 Process and Sanitary Sewers 4-5
4.3.2 Storm Sewers 4-6
4.3.3 North Drainage Ditch 4-7
4.3.4 Sediment/Soil Analytical Results 4-7

4.4 Drum Excavation 4-7

4.5 Temporary Groundwater Collection Trenches 4-8

4.6 Thermal Treatment Operations 4-8

4.7 Off-site Waste Management 4-10

4.8 Backfill Operations, Source and Quality 4-12

4.9 Wetlands Restoration 4-12

4.10 Cap Construction 4-13

4.11 Groundwater 4-14
4.11.1 Class III-B Aquifer Classification 4-14
4.11.2 Temporary Collection Trenches 4-14
4.11.3 Water Treatment 4-14

4.12 Downgradient Monitoring Wells 4-15
4.12.1 Groundwater Analytical Results 4-16

4.13 Construction Quality Assurance Documentation 4-21
4.13.1 Data Validation 4-21

4.14 SAP Modifications and Variances 4-22

5.0 ELECTRONIC DATA SUBMITTAL 5-1

6.0 REGULATORY COMPLIANCE SUMMARY - AREAS 1, 1A, AND 5 6-1

6.1 Soil 6-1

6.2 Groundwater 6-1

6.2.1 Groundwater Quality Criteria 6-1

6.3 Off-Site Waste Management 6-2

6.4 Site Restoration 6-2

6.5 Temporary Remedial Action Structures 6-2

6.6 Approved Use Restrictions 6-2

6.7 Remedial Action Tasks Completion Summary 6-3

7.0 REMEDIAL ACTION COST SUMMARY 7-1

8.0 PROFESSIONAL ENGINEER APPROVAL AND AS-BUILT CERTIFICATION 8-1

LIST OF APPENDICES

Appendix A — Analytical Summary Tables

- Table A-1 In-Situ Sample Analytical Results
- Table A-2 Sidewall Post-Excavation Sample Results
- Table A-3 Cap Perimeter Surface Soil Analytical Results
- Table A-4 Soil Stockpile Analytical Results
- Table A-5 Sediment Stockpile Analytical Results
- Table A-6 LTTD Soil Stockpile Analytical Results
- Table A-7 Analytical Results - Monitoring Wells Downgradient of Temporary WTP
- Table A-8 Groundwater Analytical Results
- Table A-9 Off-Site Disposal Waste Characterization Results
- Table A-10 Quality Assurance/Quality Control Results (Soil)
- Table A-11 Quality Assurance/Quality Control Results (Aqueous)

Appendix B — NJDEP Letter Dated March 24, 1998 - Electronic Data Format Requirements
NJDEP Letter Dated August 14, 1997 - Surface Water Quality Criteria
NJDEP Letter Dated August 14, 1997 - Class III-B Aquifer Determination Letter

Appendix C — Well Abandonment Reports
Monitoring Well Records
Monitoring Well Form A and Form B

Appendix D — Imported Clean Fill Documentation

Appendix E — Material Conformance Testing

LIST OF TABLES

(Note: All tables are located behind the TABLES Tab)

Table 1 Summary of Remediation Goals for the Principal Site Compounds

Table 2 Summary of Thermal Treatment Goals

Table 3 Summary of Excavation Quantities

Table 4 Summary Results of Thermally Treated PCB/cPAH Soil

Table 5 Disposition of Off-Site Waste

Table 6 Activity Chronology

LIST OF FIGURES

(Note: All figures are located behind the FIGURES Tab)

Figure 1 UOP Site Location

Figure 2 Designated Site Areas of Concern

Figure 3 Site Plan As-Built

Figure 4 Material Management Plan

Figure 5 Final Limits of Excavation

Figure 6 Sewer Network Remediation

EXECUTIVE SUMMARY

Location

The Universal Oil Products (UOP) Inc. site is located near the intersection of Route 17 and Paterson Plank Road in the Borough of East Rutherford, Bergen County, New Jersey, as shown on Figure 1. Tidal marshes, highways, and commercial and light industrial property surround the property. Immediately to the north is Matheson Gas, an automotive storage lot, a metal plating business and a Fairfield Inn Motel. Berry's Creek and tidal marshes are located to the east. Ackerman's Creek and commercial properties are located to the south. New Jersey Route 17 parallels the western property boundary. West of Route 17 is a Becton Dickenson building, catering, restaurant and other commercial properties. The closest residential area is approximately one-quarter mile to the west of Route 17.

Background

The UOP property is approximately seventy-five acres of which approximately fifty percent is land built up with miscellaneous earthen fill, and historically placed municipal type waste and rubble (elevations range from 4 to 9 feet above mean sea level). The Uplands area is commonly referred to as Upland Areas 1, 1A, and 5. A tidal salt marsh and man-made Ackerman's Creek cover the remaining half of the property. An active N.J. Transit Right-of-Way (R-O-W) runs North-South and separates the Uplands into two unequal areas. The area east of the railroad tracks (Areas 1, 1A, and 5) consists of 45 acres, and the area west of the tracks (Area 2) consists of 30 acres. A Remedial Action Report (RAR) was submitted to NJDEP in November 1997 to document the Area 2 remediation. The remediation of Areas 1, 1A, and 5 is the subject of this RAR submission.

From 1932 through 1979, an aroma and fragrance laboratory business, in addition to other industrial chemical companies, operated within the Uplands property. Trubeck Laboratories (Trubeck) which built and operated the aroma chemical laboratory initially developed the Uplands area in 1932. Trubeck began operating a solvent recovery facility in 1955. In 1956, Trubeck constructed a wastewater treatment plant, and in 1959 began utilizing two wastewater-holding lagoons. UOP, a division of the Signal Companies, acquired the property and facilities in 1960. The wastewater treatment plant and wastewater lagoons ceased being used in 1971. All remaining operations at the facility were terminated in 1979. In 1980, all structures, except concrete slabs and a pedestrian bridge over the N.J. Transit tracks, were demolished. The contents of the two wastewater lagoons (Area 3) were removed and transported offsite for disposal in 1990 under an interim remedial action. Soil and shallow groundwater contamination is associated with past industrial activities.

In 1986, Allied Corporation merged with the Signal Companies forming AlliedSignal. AlliedSignal acquired the UOP property as part of the merger and thereby acquired the inactive UOP property. In December 1999 AlliedSignal merged with Honeywell, Inc. and became Honeywell International, Inc. (Honeywell).

Regulatory Background

The New Jersey Department of Environmental Protection (NJDEP), Bureau of Federal Case Management has been the lead oversight agency at the UOP site since 1982. In addition, both the USEPA Region II and the Hackensack Meadowlands Development Commission have provided an integral role in the regulatory oversight of all remedial activities. The site restoration activities described herein for Areas 1, 1A, and 5 were performed in accordance with work plans and permits approved by the NJDEP.

The UOP site was added to the National Priorities List (NPL) on September 8, 1983 (Hazard Ranking Score of 54.65, Group 3). The first Administrative Consent Order (ACO) was issued by NJDEP in 1983 to perform a Remedial Investigation (RI), the purpose of which was to chemically characterize and delineate areas of soil and groundwater impacts that may require remedial action. UOP entered into a second ACO in May 1986 in which UOP agreed to continue site investigations, conduct a feasibility study (FS) of remedial action alternatives for the various areas at the site. In 1986, following the merger, AlliedSignal became responsible for completing the characterization activities initiated in 1983. In accordance with the ACO, remedial investigations and studies continued at the site until 1990. As components of the RI, a human health and ecological risk assessment were performed to establish specific numerical clean-up criteria for defining the limits of required remediation.

Remedial Investigation

The RI and a Supplementary Investigation were completed by ENSR in 1993. Soil in four discrete Upland areas, as well as process, sanitary, and storm sewer sediments and shallow groundwater were identified as requiring remediation. The four Upland areas were designated as Areas 1, 1A, 2 and 5. Areas 3 and 4 were the remediated wastewater lagoons and the existing tidal stream channels, respectively. The on-site sewers were designated as Network 1 through 5. The RI identified the following classes of contaminants in the soil and sewer sediment:

- Polychlorinated Biphenyls (PCBs)
- Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
- Volatile Organic Compounds (VOCs)
- Inorganics, primarily lead (Pb)

The RI determined that VOCs had primarily impacted the shallow groundwater. The RI determined that VOCs, primarily aromatics, had impacted the shallow groundwater.

Feasibility Study

Based on the chemical and physical characterization data collected and evaluated during the RI, remedial alternatives were developed for the Upland Areas as part of a Feasibility Study (FS) prepared by ENSR, dated June 1992. As required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), nine evaluation criteria were considered during the FS as follows:

- Protection of Human Health and the Environment
- Compliance with Applicable and Relevant and Appropriate Requirements
- Short-term Effectiveness
- Long-term Effectiveness
- Implementability
- Reduction of Toxicity, Mobility, and Volume
- Cost
- State acceptance
- Community acceptance

To complete the FS, response media, areas of concern, institutional and technological response measures were established. Remedial alternatives were then developed and a detailed evaluation performed. The remedial alternatives shown below underwent a detailed evaluation for the identified media for each discrete Upland Area:

Remedial Alternatives Evaluated for Soil	Contaminants Addressed by Area
No Action/Institutional Controls	PCB and cPAH soils in Areas 1, 2, and 5
Containment	VOC soils in Areas 1A and 2
Excavation and Treatment	Lead soils in Areas 1, 1A and 5
Excavation and Offsite Disposal	
In-situ Treatment	

Remedial Alternatives Evaluated for Groundwater	Contaminants Addressed by Area
No Action/Monitoring and Institutional Controls	VOCs in Areas 1, 1A and 2
Extraction and Treatment	

Record of Decision

Based on the findings presented in the RI and the Remedial Alternatives recommended in the FS, the NJDEP issued a Record of Decision (ROD) for Upland Areas 1, 1A, 2 and 5 in October 1993. The ROD required the following actions be performed:

- Excavate soils with total PCB concentrations greater than 2 mg/kg;
- Excavate soils with total cPAH concentrations greater than 29 mg/kg;
- Excavate soils with individual cPAH concentrations as follows:

	(mg/kg)
- Benzo (b)fluoranthene	4
- Benzo(a) anthracene	4
- Benzo(a) pyrene	0.66
- Benzo(k)fluoranthene	4
- Chrysene	40
- Dibenzo(a,h) anthracene	0.66
- Indeno(1,2,3-cd)pyrene	4

- Excavate soils with total VOC concentrations greater than 1000 mg/kg;
- Excavate soils with 1,1,2,2-Tetrachloroethane concentration greater than 21 mg/kg;
- Excavate soils with lead concentration greater than 600 mg/kg;
- Thermally treat excavated soils with total PCB concentrations greater than or equal to 25 mg/kg and/or total cPAH concentrations greater than or equal to 29 mg/kg;
- Thermally treat excavated soils with total VOC concentrations greater than or equal to 1000 mg/kg;
- Thermally treat excavated soils with 1,1,2,2-Tetrachloroethane concentration greater than or equal to 21 mg/kg;
- Place excavated and successfully treated soils under an on-site multi-media cap;

- Extract and treat shallow groundwater. A total minimum volume of 5.6 million gallons was specified as an aggregate amount to be extracted from Areas 1, 1A and 2. As part of remedial activities, groundwater impacted by the leaching of surface water (referred to as leachate in the ROD) through VOC impacted soil areas was collected and treated on-site.

The October 1993 ROD provided for an interim remedy for groundwater. Subsequent to the issuance of the ROD, the shallow groundwater was designated in 1996 as a Class III-B aquifer, non-potable, and hydraulically connected to a saline surface water body. To date, Class III-B groundwater quality standards have not been promulgated by NJDEP. Since the ultimate receptor of the site groundwater is Berry's Creek via the tidally influenced Ackerman's Creek it was deemed appropriate to establish discharge limits that would be protective of these nearby surface water bodies.

In addition to the remedial action specified by the ROD, the NJDEP also required that all sewers (process, sanitary and storm) be cleaned of sediment or removed. In cooperation with the New Jersey Department of Transportation (NJDOT), approximately 800 linear feet of new storm sewer was installed in Area 2 to replace an out-of-service storm sewer system (Storm Sewer Network 5).

Remedial Design

A Remedial Design was completed to implement the ROD. In addition to eleven design drawings and twenty-seven construction and remediation specifications, the following supplemental plans were prepared (ENSR May 1995) in accordance with N.J.A.C. 7:26E - New Jersey Technical Requirements for Site Remediation:

- Remedial Action Work Plan (RAWP)
- Sampling and Analysis Plan (SAP)
- Quality Assurance Project Plan (QAPP)

The NJDEP approved the drawings, specifications and RAWP on November 6, 1995. The SAPP and QAPP were approved by the NJDEP on July 30, 1996.

The following permits were obtained, prior to and during remedial activities, from the respective Federal, New Jersey and local agencies to support the implementation of the Remedial Action.

- NJDEP – Letter of Interpretation (0212-4-0001.1 – October 4, 1994)
- Hackensack Meadowland Development Commission Zoning Certification for Site Improvements (CZC-95-038 - June 7, 1995)
- Army Corps of Engineers Nationwide Permit No. 38 (95-05320-J2 - August 22, 1995)
- NJDEP – Air Pollution Control Permit for LTTD Stack (01-96-2706 – October 15, 1996)

- Bergen County Soil Conservation Commission Soil Erosion and Sediment Control Plan (95-B5125 - August 17, 1995 and January 23, 1998 (revised))
- East Rutherford Borough - Building, Plumbing, Fire Protection (96-054-March 1996)
- East Rutherford Borough - Electrical (96-029 - April 18, 1996)
- Army Corps of Engineers Jurisdictional Determination (96-01750-J2 – July 31, 1996)
- NJDEP - Air Pollution Control Permit for Mechanical Screener (01-96-2164 - October 1, 1996)
- NJDEP - Air Pollution Control Permit for LTTD (01-96-2706 - October 15, 1996)
- HMDC – Certificate of Compliance (95-245 – October 22, 1996)
- NJDEP - Discharge to Groundwater Permit Equivalent - May 15, 1996)
- NJDEP - Authorization to Discharge Stormwater (SCD RFA #02-12-95-014 - August 17, 1995)
- NJDEP - Stream Encroachment Permit (0212-95-0001.2 - June 27, 1995)
- NJDEP - Waterfront Development Permit and Water Quality Certificate (0212-95-0001.3 - June 27, 1995)
- NJDEP - Wetlands Deed Restriction (7008 - April 2, 1996)
- New Jersey Transit Access Permit (February 19, 1996)
- NJDEP – Letter of Interpretation (0212-95-0001.4 – July 11, 1996)
- NJDEP – Air Pollution Control Permit for Mechanical Screener (01-96-4358 – January 2, 1997)
- NJDEP - Air Pollution Control Permit for Mechanical Screener (01-97-4387 - April, 28, 1998)
- NJDEP – Air Pollution Control Permit for TEVE System (01-98-0417 – May 7, 1998)

- NJDEP – Waterfront Development Permit, Water Quality Certificate, State Wide General Permit (0212-95-0001.8 and 0212-95-0001.9, June 18, 1999)

- NJDEP – Stream Encroachment Permit (0212-95-0001.10 – January 27, 1999)

- NJDEP – Waterfront Development, Water Quality Certification (0212-95-0001.11 – March 26, 1999)

Remedial Action

Remediation of Areas 1, 1A, and 5 was completed in March 1999 along with the construction of the on-site multi-media cap. Remediation of Area 2 was completed November 1996 with the submission of the Area 2 Remedial Action Report (RAR) to NJDEP in November 1997. However, upon review of the Area 2 RAR, NJDEP requested further evaluation and investigation into the NJ Transit R-O-W. This area is now considered part of Area 4 – Stream Channels.

Work completed for Area 2 (area west of the NJ Transit R-O-W) includes the following:

- 9353 cubic yards (in-place volume) of PCB/cPAH soils were excavated (this volume includes the removal of 200 cy of sediment from the storm sewer systems)
- 337 cubic yards (in-place volume) of VOC soils were excavated
- A total of 4031 cubic yards of excavated soil and collected sediment required thermal treatment
- 270 linear feet of temporary groundwater extraction trench was installed
- 2920 linear feet of existing storm sewer was cleaned
- 1058 linear feet of storm sewer was excavated
- 1942 linear feet of process sewer was excavated
- 800 linear feet of new 48-inch storm sewer was installed
- 2,084,600 gallons of groundwater were collected and treated

As part of an engineering evaluation to determine whether additional future groundwater remediation would be warranted for Area 2, the groundwater analytical data was compared to the NJDEP Surface Water Quality Criteria for Ackerman's Creek and Berry's Creek, which are the receptors the shallow groundwater. Five rounds of groundwater analytical data, from select sumps in Area 2, were compared to the NJDEP Surface Water Quality Criteria. All detected VOCs are within acceptable limits, and most continue to exhibit a decreasing trend in concentration.

Sampling during remediation of Area 2 included the following:

- 32 in-situ soil samples to further delineate extent of soil contamination
- 108 post-excavation samples to document removal of contamination
- 9 soil samples for management of the onsite soil stockpile
- 1 sediment sample
- 15 groundwater samples

Sample analysis was performed by Intertek Testing Laboratories (NJ Certification No 82716).

Work completed for Areas 1, 1A, and 5 (areas east of the NJ Transit R-O-W) is as follows:

- 27,678 cubic yards (in-place volume) of soils primarily impacted with PCB/cPAHs were excavated (this volume includes the removal of 150 cy of sediment from the sewer systems)
- 13,474 cubic yards (in-place volume) of VOC soils were excavated
- 15,017 cubic yards (in-place volume) of lead impacted soils were excavated
- A total of 10,591 of excavated soil and sediment required thermal treatment
- 2,550 linear feet of temporary groundwater extraction trench was installed
- 2,000 linear feet of existing storm sewer was cleaned
- 600 linear feet of storm sewer was excavated
- 200 linear feet of storm sewer was replaced
- 1,040 linear feet of process/sanitary sewer was cleaned
- 990 linear feet of process/sanitary sewer was excavated
- 4,853,009 gallons of groundwater were treated

Groundwater collected on a monthly basis from the sumps in Areas 1, 1A, and 5 compared to the NJDEP Surface Water Quality Criteria for Ackerman's Creek and Berry's Creek, which are the receptors of the shallow groundwater. This groundwater data was collected to assist in presenting the general decreasing VOC trend as a result of the source removal in the associated areas.

Sampling during remediation of Areas 1, 1A, and 5 included the following:

- 38 in-situ soil samples to determine the ROD required disposition of site soils
- 250 post-excavation samples to document ROD compliance

- 25 soil samples for management of the onsite soil stockpile
- 1 sediment sample
- 50 groundwater samples
- 34 waste classification samples for off-site disposal

Sample analysis was performed by Intertek Testing Laboratories (NJDEP Certification No 82716) and Severn Trent – Envirotech Laboratories (formerly Envirotech), NJDEP Certification No. 12543

Segregation and Closure of Uplands Areas 1, 1A, and 5

This remedial action was performed in accordance with the soil and sediment remediation goals established by the 1993 ROD.

Areas 1, 1A, and 5 (Lot 8, Block 105.01) are physically segregated from Area 2 (Lot 2, Block 104) by the active NJ Transit R-O-W, which makes the future development of these areas to likely occur as separate parcels. For this reason, Area 2 and Areas 1, 1A, and 5 were remediated as separate and distinct sections of the UOP site, including the submission of separate sets of permit applications and Remedial Action Reports.

Remedial Action Report Organization

This report details the soil and groundwater remedial action completed within Areas 1, 1A, and 5 (Lot 8/Block 105.01) at the UOP Uplands site from 1996-1999. This report is structured to include the information specified in Section 7:26E of the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E) and other pertinent information as follows:

- Introduction - Summary of site assessment and characterization work, and Regulatory Framework
- Engineering and Permitting
- Site preparation and Mobilization (including Health, Safety and Environment)
- Findings/Remedial Action Report
- Regulatory Compliance Summary
- Remedial Action Cost Summary

Of necessity, many of these aspects of the Areas 1, 1A, and 5 remedial action cannot be presented without discussion of the aspects of Area 2; however, the focus of this report is Areas 1, 1A, and 5.

1.0 INTRODUCTION

1.1 Background

The Universal Oil Products (UOP) Site, is located in northeastern New Jersey, occupying approximately 75 acres in an industrial area of East Rutherford, Bergen County (Figure 1). Trubeck Laboratories (Trubeck) which built and operated an aroma chemical laboratory initially developed the property in 1932. Trubeck began operating a solvent recovery facility in 1955. In 1956, Trubeck constructed a wastewater treatment plant and began utilizing two wastewater-holding lagoons. UOP, a division of the Signal Companies, acquired the property and facilities in 1960. Use of the wastewater treatment plant and wastewater lagoons ceased in 1971. All remaining operations at the facility were terminated in 1979 and the site became inactive. In 1980 all structures, except concrete slabs and a footbridge over the NJ Transit railroad tracks, were demolished.

In 1983, UOP entered into an Administrative Consent Order (ACO) with the NJDEP to investigate potential sources and the extent of contamination. Remedial investigations commenced at the site in 1983. UOP entered into a second ACO in May 1986 in which UOP agreed to continue site investigations and conduct a feasibility study (FS) of remedial action alternatives for the various areas at the site. In 1986, Allied Corporation merged with the Signal Companies, forming AlliedSignal. AlliedSignal acquired the UOP property as part of the merger and thereby became responsible for completing the characterization activities initiated in 1983. In accordance with the ACO, remedial investigations and studies continued at the site until 1990. Based on the completed Remedial Investigation, a Feasibility Study was conducted and subsequently approved by the NJDEP in September 1992. The NJDEP/EPA signed and issued, the Record of Decision (ROD), dated October 7, 1993, for Operable Unit One of this Superfund site, which is known as the UOP Uplands Site. In December 1999 Allied Signal merged with Honeywell, Inc. and became Honeywell International, Inc. (Honeywell).

The UOP Uplands Site, which consists of Areas 1, 1A, 2, and 5 (Block 105.01, Lot 8), shown on Figure 2, became the location of a remedial action starting in April 1996. The remedial action selected in the ROD addressed several principal contaminants of concern. These principal contaminants included: Polychlorinated Biphenyls (PCBs) – contaminated soils, carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) – contaminated soils, Volatile Organic Compound (VOC) – contaminated soils, lead – contaminated soils, and VOC – contaminated shallow groundwater.

1.2 Areas 1, 1A, and 5 RAR

The purpose of this as-built report is to document the completion of remedial actions for the soils, and sewer sediments within Areas 1, 1A, and 5. This report demonstrates that the remedial actions have

been performed in accordance with the intended objectives set forth in the Declaration of the ROD, which were to "address the threats due to contaminated soils and contaminated leachate". The scope and role of Operable Unit One is defined on page 3 of the ROD as "an interim action that addresses all known soil contamination and leachate that serves as a source of groundwater contamination". As part of the remedial activities of Areas 1, 1A, and 5, groundwater impacted by the leaching of surface water (referred to as leachate in the ROD) through VOC impacted soil areas was collected and treated on-site.

1.3 Separating Areas 1, 1A, and 5 for Site Closure

Upland Areas 1, 1A, and 5 are being segregated from Upland Area 2 for separate closure based on the chronological completion of the required soil and sediment remedial activities in these areas. In addition, Areas 1, 1A, and 5 are physically separated from Area 2. Areas 1, 1A, and 5 are bounded on the north by industrial and commercial businesses; south by Ackerman's Creek; east by Murray Hill Parkway; and west by the NJ Transit R-O-W. After completion of the remediation activities in Area 2 (Block 104, Lot 2) a remedial action report (RAR) for Area 2 was submitted to NJDEP/EPA under separate cover. The RAR for Area 2 is entitled, *Remedial Action Report Area 2 - Block 104, Lot 2, UOP Uplands Site Remediation, East Rutherford, NJ*, prepared by ENSR Consulting & Engineering, November 1997. NJDEP/EPA responded to the Area 2 RAR in a comment letter dated September 16, 1998. In this letter, NJDEP/EPA required further evaluation and investigation into the NJ Transit R-O-W. However, this area is now considered part of Area 4 – Stream Channels. The RAR for Area 2 will be amended upon the completion of the sediment removal activities and culvert construction in the drainage channel located at the south end of the lot.

1.4 Site Characterization Summary

1.4.1 Remedial Investigation and Feasibility Study

In response to the 1983 ACO, UOP performed a hydrogeologic site investigation in 1984 as part of the Phase I remedial investigation with the results reported to the NJDEP in 1984. Pursuant to a 1984 ACO Addendum, additional remedial investigations were performed. These remedial investigations resulted in four areas, Areas 1 through 4, being designated as areas of environmental concern at the site. These investigations were reported in the "Phase II Investigation" and "Initial Screening of Remedial Action Alternatives", submitted to the NJDEP in 1985.

AlliedSignal was requested by the NJDEP to investigate the potential sources and extent of contamination in the original four identified areas of environmental concern (Areas 1, 2, 3, and 4), and two additional areas of environmental concern, identified as Areas 1A and 5. AlliedSignal also agreed to conduct feasibility studies to identify potential remedial actions for these defined areas. The additional remedial investigation was presented in the revised 1988 Remedial Investigation Report.

After the remedial investigation was completed, a risk assessment of potential human health and ecological risks associated with the site contaminants was conducted. In November 1990, additional sampling at the site was conducted to further delineate the extent of PCB/cPAH contamination in the southern portion of Area 5 and lead contamination in the northern portion of Area 5.

In response to a seep emanating from the northern bank of Ackerman's Creek, a Seep/Sewer Network Investigation was conducted by AlliedSignal to determine the source of the seep and to delineate the configuration of the storm, process, and sanitary sewer network at the site. In 1991, three monitoring wells were installed on site as part of the proposed interim remedial measure (IRM) for groundwater treatment. Based on the results of these remedial investigations, the risk assessment, supplemental data collection, the Seep/Sewer Network Investigation, and the IRM groundwater data, AlliedSignal conducted a Feasibility Study (FS) and prepared an FS Report entitled "Feasibility Study, UOP Site, East Rutherford, New Jersey; June 1992" which was subsequently approved by the NJDEP in September 1992. The FS Report provided a detailed evaluation of recommended remedial options to address the contaminants within Areas 1, 1A, 2, and 5 of the site.

1.4.2 Supplemental Investigation

During the FS phase, supplemental investigations were initiated in 1993 to complete the delineation of surface soil and shallow groundwater contamination, in preparation for remedial action activities. Analytical field screening was conducted for PCBs, cPAHs, and VOCs using the Immunoassay Technique, Select Ion Method, and Gas Chromatograph (GC) technique, respectively, on soil samples. Based on these investigations, the areas of potential concern were more specifically delineated. The findings of the investigations were presented in the February 1994 Supplemental Investigation Summary Report.

In summary, the supplemental investigation accomplished the following:

- In the areas identified in the FS report as requiring remediation, soil samples were collected for lead analysis to identify the areal limits of lead impacted surface soil. Area 5 was determined to have surficial lead concentrations above the 600 mg/kg NJDEP Soil Cleanup Criteria.

- Soil samples were collected from Area 2 to further delineate soils contaminated with PCBs. Samples were collected from Areas 1 and 5 to further delineate soils contaminated with PCB and cPAH compounds. The only detected PCB was Aroclor 1248. The seven (7) cPAHs of concern included: Benzo(b)fluoranthene; Benzo(a)anthracene; Benzo(a)pyrene; Benzo(k)fluoranthene; Chrysene; Dibenzo(a)anthracene and; Indeno(1,2,3-cd)pyrene.

- Soil samples were collected for VOC analysis during the investigation. The investigation identified Areas 1A and 2 as exceeding acceptable threshold concentrations for VOCs in soils.

- The collection and analysis of groundwater samples resulted in identifying areas of shallow groundwater which exceeded the remediation goals of 1 mg/l for individual VOCs, or 10 mg/l for total VOCs.

1.4.3 Risk Assessment

As a component of the RI, human health and ecological risk assessments were conducted to determine the potential risks from the present and potential future use of the UOP site. The results of these risk assessments were reported in a two-volume report entitled "Risk Assessment Report, UOP Site, East Rutherford, New Jersey" Volume 1 Human Health Risks, June 1989 and "Risk Assessment Report, UOP Site, East Rutherford, New Jersey" Volume 2 Ecological Risks, November 1989. Volume I presented the human health risk assessment which concentrated on the possible health effects due to contamination on the Uplands area of the site, and Volume II, which mainly focused on the contamination in the stream channels, presented the ecological risk assessment and human health food chain assessment. The ecological risk assessment for the Uplands portion of the site consisted of a preliminary ecological survey. Results of the risk assessments were incorporated into the ROD issued for Areas 1, 1A, 2, and 5 of the site. The major findings of the human health risk assessment that provided a basis for soil excavation were:

1) PCB and cPAH contaminated soils presented unacceptable carcinogenic risk levels;

2) Concentrations of 1,1,2,2-Tetrachloroethane in some site soils presented carcinogenic risk levels, and

3) Concentrations of lead in some site soils exceeded EPA guidelines and NJDEP's general guidance.

These findings were considered in the soil removal plan that was implemented in Areas 1, 1A, and 5.

1.5 CERCLA Compliance

1.5.1 Record of Decision

The ROD for the UOP Uplands Site, located in Bergen County, East Rutherford was evaluated in accordance with the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), which was amended by the Superfund Amendments and Reauthorization

Act (SARA) of 1986. The ROD serves as the decision document that presents the factual and legal basis for selecting the remedy that is protective of human health and the environment, complies with Federal and State requirements, and is cost effective.

The ROD granted a waiver of the Toxic Substances Control Act (TSCA) in regard to the disposal of PCB contaminated soil. TSCA, which regulates the management and disposal of PCBs, required PCB contaminated material to be disposed of as TSCA waste if concentrations exceed 2 mg/kg after treatment. A waiver of this requirement was granted when the ROD established the PCB treatment goal at 10 mg/kg.

The ROD determined the remedial alternatives, remediation goals, and treatment goals for the principal site contaminants of each associated media as follows:

- PCB/cPAH Impacted Soil:

  The remedy selected for PCB/cPAH contaminated soils consisted of a combination of thermal desorption for highly contaminated soils, soil cover for less contaminated soil and institutional controls.

  The ROD mandated excavation and on-site thermal desorption of soils containing Total PCB concentrations >25 mg/kg, and/or Total cPAH concentrations >29 mg/kg. At a minimum, treatment of these soils would reduce Total PCBs to <10 mg/kg, and Total cPAHs to <20 mg/kg. The ROD allowed for successfully treated PCB and cPAH impacted soils to be returned to the excavation as backfill. Soils containing Total PCB concentrations ranging from 2 mg/kg to 25 mg/kg, and/or Total cPAH concentrations equal to or <29 mg/kg was allowed to be placed beneath the multi-media cap without treatment.

  AlliedSignal, based on removal achieved by the LTTD technology, proactively lowered the thermal treatment goal for Total PCBs to <2 mg/kg (compared to <10 mg/kg per the ROD) and additionally established thermal treatment goals for each of the seven (7) individual cPAHs along with the ROD mandated treatment goal for Total cPAHs of <20 mg/kg. These thermal treatment goals were included in the approved RAWP and listed under Technical Specification 13020 – Thermal Desorption.

  In a January 6, 1997 letter to NJDEP, AlliedSignal proposed a conservative modification to the RAWP. AlliedSignal proposed to place all successfully treated PCB and cPAH soils beneath the cap, instead of using the treated soil to backfill the excavations as originally planned. The excavations would then be backfilled with clean imported material. In a

January 8, 1997 letter, NJDEP approved of AlliedSignal's conservative approach to place all successfully treated PCB and cPAH soils beneath the cap.

Also in the January 6, 1997 letter, AlliedSignal proposed a modification to the thermal treatment goals listed under Technical Specification 13020. Since all thermally treated soils would be placed beneath the cap, AlliedSignal proposed to use the minimum ROD requirements of thermally treating soils to <10 mg/kg for Total PCBs and <20 mg/kg for Total cPAHs. The seven- (7) individual cPAHs would not be used to determine "Pass" or "Fail" of a treated soil pile. This proposed modification continued to satisfy the requirements of the ROD and the NJDEP Impact to Groundwater Soil Cleanup Criteria. The NJDEP approved of this modification to Specification 13020 in their January 8, 1997 letter.

- VOC Impacted Soil: On-site thermal desorption of soils containing total VOC concentrations equal to or >1,000 mg/kg and 1,1,2,2 - Tetrachloroethane concentrations equal to or >21 mg/kg. Treatment of the soil would reduce total VOC concentrations to <100 mg/kg and 1,1,2,2 - Tetrachloroethane concentrations to <21 mg/kg, and placement of the soil beneath the on-site multi-media cap.

- Lead Impacted Soil: Placement of soils containing lead concentrations >600 mg/kg beneath the multi-media cap.

- VOC Impacted Groundwater: Install shallow groundwater collection trenches for collecting groundwater containing individual VOC concentrations greater than 1 mg/l or total VOC concentrations greater than 10 mg/l. Per the ROD, approximately 5.6 million gallons of shallow groundwater required treatment.

Table 1 summarizes the remediation goals and Table 2 summarizes the thermal treatment goals of the principal site compounds for the Uplands.

1.6 ROD Amendment

Operating inefficiencies and nuisance odor complaints with the LTTD unit after treatment of 8,219.90 tons of soil, combined with the decrease in cost for off-site disposal prompted AlliedSignal to consider off-site disposal as an appropriate alternative remedy for PCB/cPAH contaminated soils. AlliedSignal formally requested the NJDEP/EPA to generate an amendment to the 1993 ROD, changing the remedy for PCB/cPAH impacted soils from on-site thermal treatment to off-site disposal. The alternative remedy of off-site disposal was approved when the NJDEP/EPA signed and issued a ROD amendment, dated December 21, 1998, thereby modifying the selected remedy to disposal of

PCB/cPAH contaminated soils from Operable Unit One. The major components of the amended selected remedy were summarized as follows:

- Approximately 6,200 tons of remaining soils with concentrations greater than remedial action goals would be excavated;
- Soils with carcinogenic PAHs above the remediation goals would be disposed off-site;
- Soils with PCB concentrations at or above 50 mg/kg would be disposed of in a TSCA permitted landfill;
- Soils with PCB concentrations above 2 mg/kg but below 50 mg/kg would be disposed of in Resource Conservation and Recovery Act (RCRA) Subtitle D permitted landfill.

1.7 Requirements for Site Remediation

This RAR has been prepared to document the achievement of remediation goals established in the ROD under appropriate and applicable guidelines set forth by New Jersey Administrative Code 7 - Department of Environmental Protection, Subtitle F - Division of Waste Management, Chapter 26E - Technical Requirements for Site Remediation (TRSR), Subchapter 6 - Remedial Action, and Section 6.6 - Remedial Action Report (N.J.A.C. 7:26E-6.6).

1.7.1 Remedial Action Work Plan

The NJDEP/EPA approved Remedial Action Work Plan (RAWP) for the UOP Uplands Site Remediation in East Rutherford, New Jersey was prepared to provide the information required by New Jersey Administrative Code Title 7 - Department of Environmental Protection, Subtitle F - Division of Waste Management, and Chapter 26E - Technical Requirements for Site Remediation. Subchapter 6 - Remedial Action, Section N.J.A.C. 7:26E-6.2(a) Remedial Action Work Plan. The RAWP provided detailed information regarding the remedial action for soils in Areas 1, 1A, 2, and 5 of the UOP Site and outlined the remedial alternatives for these soil areas. The information contained in the RAWP is based upon:

- Phase I investigation (May 1984); and the Phase II Investigation Report (May 1985), prepared by Geraghty & Miller;
- Remedial Investigation Report (RIR) prepared by Geraghty & Miller, (May 1988);
- Available analytical data from sampling reports for on-site soils and groundwater sampling conducted by ENSR in late 1989, early 1990, and late 1990;

- ENSR's Risk Assessment Report, Volume 1 (June 1989) and Volume 2 (November 1989);
- Seep/Sewer Network Investigation Report, prepared by ENSR, (January 1991);
- Preliminary Design Report for the Interim Remedial Measure for Groundwater, prepared by ENSR, (September 1991);
- The Supplemental Investigation Report, prepared by ENSR, (1994);
- Record of Decision dated October 7, 1993;
- Wetlands Characterization Report, prepared by ENSR, (January 1994); and
- Supplemental lead sampling information collected during the summer of 1994.

The RAWP for the UOP site addressed the major findings of the human health risk assessment (RAWP, Section 1.3.3) and provided engineering and regulatory requirements to complete the soil remediation activities.

1.8 List of Supporting References

The following is a list of supporting documents, which serve as references within this RAR:

N.J. Department of Environmental Protection. "Administrative Consent Order, UOP Site, East Rutherford, New Jersey, July 1983.

Geraghty & Miller, Inc. "Phase I Investigation Report, UOP Site, East Rutherford, New Jersey", May 1984.

Geraghty & Miller, Inc. "Initial Screening of Remedial Action Alternatives, UOP Site, East Rutherford, New Jersey, July 1985.

Geraghty & Miller, Inc. "Phase II Investigation Report, UOP Site, East Rutherford, New Jersey", May 1985.

N.J. Department of Environmental Protection. "Administrative Consent Order, UOP Site, East Rutherford, New Jersey", May 1986.

Geraghty & Miller, Inc. "Remedial Investigation Report, Areas 1, 1A, 2, and 5, UOP Site East Rutherford, New Jersey" Revision No. 1, Vol. 1 & 2, May 1988.

ENSR Consulting and Engineering. "Risk Assessment Report, UOP Site, East Rutherford, New Jersey" Volume 1 Human Health Risks, June 1989.

ENSR Consulting and Engineering. "Risk Assessment Report, UOP Site, East Rutherford, New Jersey" Volume 2 Ecological Risks, November 1989.

ENSR Consulting and Engineering. "Seep/Sewer Network Investigation Report, UOP Site, East Rutherford, New Jersey", January 1991.

ENSR Consulting and Engineering. "Preliminary Design Report for Interim Remedial Measure for Groundwater, UOP Site, East Rutherford, New Jersey", September 1991.

ENSR Consulting and Engineering. "Feasibility Study, UOP Site, East Rutherford, New Jersey", June 1992.

ENSR Consulting and Engineering. "Supplemental Investigation Work Plan, East Rutherford, New Jersey", September 1992.

U.S. Environmental Protection Agency, and N.J. Department of Environmental Protection and Energy. "Record of Decision, UOP Site, East Rutherford, New Jersey", dated October 7, 1993.

ENSR Consulting and Engineering. "Supplemental Investigation Report, UOP Site, East Rutherford, New Jersey", February 1994.

ENSR Consulting and Engineering. "Remedial Action Work Plan (RAWP) for Uplands Portion of UOP Superfund Site, East Rutherford, New Jersey", May 1995.

Canonie Technologies, Inc. "Sampling and Analysis Plan/Quality Assurance Project Plan for the Site Closure, UOP Uplands Site, East Rutherford, New Jersey", February 1996.

Canonie Technologies. "Quality Assurance Report #1", July 8, 1996.

Inchcape Testing Services. Letter report regarding revised cPAH results. August 12, 1996.

ENSR Consulting and Engineering. "Data Validation of UOP Uplands Data", August 30, 1996.

Canonie Technologies. "Results of Sewer Evaluation, UOP Uplands Site, East Rutherford, New Jersey", September 10, 1996.

ENSR Consulting and Engineering. "Data Validation Memo", September 5, 1996.

Canonie Technologies. "Data Validation Inquiry", September 1996.

Canonie Technologies. "Field Quality Assurance Audit Report", September 18, 1996.

Inchcape Testing Services. Letter report regarding revised data results. October 24, 1996.

Canonie Technologies. "Field Quality Assurance Report", December 12, 1996.

ENSR Consulting and Engineering. "Data Validation of UOP Uplands Data", December 30, 1997.

Canonie Technologies. "Data Validation Inquiry", January 9, 1997.

Agency for Toxic Substances and Disease Registry - Toxicological Profiles on CD-ROM, 1997.

ABB Environmental Services, Inc. "TEVE Pilot Test Workplan UOP East Rutherford, NJ", November 1997.

Analytical and Environmental Services, Inc. "Evaluation of UOP – Uplands Data for Total VOC and 1,1,2,2 – Tetrachloroethane", July 30, 1998.

Harding Lawson Associates (Formerly ABB Environmental Services, Inc). "Post Remediation Data Report For The Pilot Soil Remediation Project at the UOP Site East Rutherford, NJ", September 3, 1998.

U.S. Environmental Protection Agency, and N.J. Department of Environmental Protection. "Amended Record of Decision, UOP Site, East Rutherford, New Jersey, dated December 21, 1998.

ENSR Consulting and Engineering. "Remedial Action Report Area 2 – Block 104, Lot 2, UOP Uplands Site Remediation – East Rutherford, NJ", dated November 1997.

2.0 ENGINEERING AND PERMITTING

Project workplans, drawings, specifications, and regulatory permits for the UOP Uplands Site Remediation were prepared in accordance with the ROD and NJDEP (TRSR), to serve as requirements for the site remediation and construction activities.

2.1 Pre-Remediation Estimates

Based on the chemical constituent areal boundaries and depths delineated in the remedial investigation and subsequent supplemental investigations, the RAWP, and Construction Drawings (C-1 through C-11) provided an engineering estimate of the in-place volume of soil to be excavated, the volume of sediment to be removed from the sewer network, and the disposition of these materials. For Areas 1, 1A, and 5 this estimate is summarized below:

- Excavation of approximately 4,748 cy of PCB/cPAH impacted soil and direct placement under the multi-media cap;
- Excavation and thermal treatment of approximately 6,920 cy of PCB/cPAH impacted soil and placement under the multi-media cap;
- Excavation and thermal treatment of approximately 8,052 cy of VOC impacted soil and placement under the multi-media cap;
- Excavation and thermal treatment of approximately 807 cy of VOC and lead-impacted soil and placement under the multi-media cap;
- Excavation of approximately 711 cy of lead impacted soil; and
- Removal of less than 150 cy of sediments from process/sanitary and storm sewer remediation (note: this estimate addressed the entire site sewer network in Areas 1, 1A, 2, and 5).

2.1.1 Drawings and Specifications

Project drawings and specifications were prepared in conjunction with the RAWP to further establish a scope of work, sequence, and detailed construction specifications. The Construction Drawings, dated April 4, 1995, were approved and certified by a NJ Licensed Professional Engineer (GE 034274) prior to commencement of work. Project Specifications supplemented the Construction Drawings and were prepared in accordance with applicable engineering codes and practices.

2.2 Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP)

The NJDEP approved Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) was prepared in accordance with the U.S. Environmental Protection Agency (EPA) Quality Assurance Management Staff guidance document, "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans", QAMS 005/80, the NJDEP Technical Requirements for Site Remediation N.J.A.C. 7:26E, and the NJDEP Field Sampling Procedures Manual (FSPM), May 1992.

The SAP/QAPP was prepared to describe the prime responsibilities and necessary procedures to ensure the project is executed in a manner consistent with the RAWP and with approved quality assurance (QA) and quality control (QC) objectives. The SAP/QAPP also identified procedures for generating data that is precise, accurate, representative, complete, and comparable.

The SAP/QAPP was designed to ensure that field sampling procedures, analytical methods, and chemical analytical data were of sufficient quality to meet the intended use. The SAP/QAPP provided guidance for the overall QA/QC for both field and laboratory activities, including data quality assurance and reporting, field sampling and laboratory analysis, field and laboratory auditing programs, and field and laboratory instrument calibration protocol.

2.3 Permits

In accordance with N.J.A.C. 7:26E-6.2(a) 8), all required permits were identified and obtained for the UOP Uplands Site Remediation. The list of acquired permits is presented below along with the applicable permit title, certificate number, issuing authority, and date of issuance:

- NJDEP – Letter of Interpretation (0212-4-0001.1 – October 4, 1994)
- Hackensack Meadowland Development Commission Zoning Certification for Site Improvements (CZC-95-038 - June 7, 1995)
- Army Corps of Engineers Nationwide Permit No. 38 (95-05320-J2 - August 22, 1995)
- NJDEP – Air Pollution Control Permit for LTTD Stack (01-96-2706 – October 15, 1996)
- Bergen County Soil Conservation Commission Soil Erosion and Sediment Control Plan (95-B5125 - August 17, 1995 and January 23, 1998 (revised))
- East Rutherford Borough - Building, Plumbing, Fire Protection (96-054-March 1996)
- East Rutherford Borough - Electrical (96-029 - April 18, 1996)

- Army Corps of Engineers Jurisdictional Determination (96-01750-J2 – July 31, 1996)
- NJDEP - Air Pollution Control Permit for Mechanical Screener (01-96-2164 - October 1, 1996)
- NJDEP - Air Pollution Control Permit for LTTD (01-96-2706 - October 15, 1996)
- HMDC – Certificate of Compliance (95-245 – October 22, 1996)
- NJDEP - Discharge to Groundwater Permit Equivalent - May 15, 1996)
- NJDEP - Authorization to Discharge Stormwater (SCD RFA #02-12-95-014 - August 17, 1995)
- NJDEP - Stream Encroachment Permit (0212-95-0001.2 - June 27, 1995)
- NJDEP - Waterfront Development Permit and Water Quality Certificate (0212-95-0001.3 - June 27, 1995)
- NJDEP - Wetlands Deed Restriction (7008 - April 2, 1996)
- New Jersey Transit Access Permit (February 19, 1996)
- NJDEP – Letter of Interpretation (0212-95-0001.4 – July 11, 1996)
- NJDEP – Air Pollution Control Permit for Mechanical Screener (01-96-4358 – January 2, 1997)
- NJDEP - Air Pollution Control Permit for Mechanical Screener (01-97-4387 - April, 28, 1998)
- NJDEP – Air Pollution Control Permit for TEVE System (01-98-0417 – May 7, 1998)
- NJDEP – Stream Encroachment Permit (0212-95-0001.10 – January 27, 1999)
- NJDEP – Waterfront Development, Water Quality Certification (0212-95-0001.11 – March 26, 1999)

3.0 SITE PREPARATION AND MOBILIZATION

3.1 Site Access and Layout

During initial remediation mobilization activities, site access was provided by a macadam and stone access road on the western side of the Site, from Rt. 17 North, just prior to the Paterson Plank, Rt. 120 exit. A N.J. Transit rail line and active grade crossing, with mechanical gates and warning signals, permitted access to the support zone located on the eastern portion of the site. After completion of the clearing and grubbing activities, access at the western side of the Site was closed and relocated to the eastern side of the site through a chain link double gate entrance located along Murray Hill Parkway. A temporary access road was constructed of crushed stone over geotextile filter fabric to provide access from Murray Hill Parkway to the support zone. Approximately 370 feet of the access road was eventually paved to stabilize the road for future traffic use and provide an additional erosion control measure.

3.2 Health, Safety, and Environment

3.2.1 Soil Erosion and Sediment Control

The Soil Erosion and Sediment Control Plan (SESCP) for the UOP Uplands Site Remediation was developed in accordance with the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-42, and N.J.A.C. 2:890-1.1 et seq, and outlined in the "Standards for Soil Erosion and Sediment Control in New Jersey" (April 1987). The SESCP was approved by the Bergen County Soil Conservation District (BCSCD) and issued Permit No. 95-B5125. The SESCP was eventually revised and approved January 23, 1998 by BCSCD subsequent to AlliedSignal's request to modify the footprint and areal limits of the cap area.

All soil erosion and sediment control devices such as filter fabric, haybales, and crushed stone were constructed in accordance with the SESCP prior to any ground intrusion or soil movement. Ackerman's Creek was protected from sedimentation by installation of silt fence, hay bales, or imported crushed stone around catchbasins that were connected to the site stormsewer system that eventually discharged into the Creek.

Filter fabric was constructed in the following areas during remediation and construction activities: 1) along the northern fringe of the delineated wetlands, 2) along upgradient non-vegetated areas adjacent to Ackerman's Creek, 3) along the southern perimeter of the North Drainage Ditch, 4) along the fenceline adjacent to Murray Hill Parkway, 5) along the northeast fenceline adjacent to the Fairfield Inn and, 6) on top of all catch basin grates downgradient of excavated areas. Where filter fabric was not applied, haybales and/or clean quarry stone was placed around the perimeter of catch basin grates to

prevent soil fines from entering the catch basin and causing sedimentation in Ackerman's Creek.

To suppress airborne dust migration during excavation activities and windy periods, a 500-gallon mobile water sprayer was used to wet dry areas of the Site that were conducive to ambient dust problems.

In preparation for soil remedial activities, clearing and grubbing was necessary in Areas 1, 1A, 2, and 5. Approximately 10 vegetated acres were cleared of surface refuse, grubbed of trees, shrubs, and dense phragmites. All refuse was placed beneath the multi-media low permeability cap. Grubbed trees, shrubs, and other vegetation were shredded and the wood chips spread within the cap area.

3.2.2 Air Monitoring

In accordance with the Site specific Health and Safety Plan (HASP - Canonie, February 1996) ambient air monitoring was conducted by the Site Health and Safety Officer (SHSO) to determine air quality during all phases of remediation and construction. The following portable ambient air monitoring instruments were utilized during Site activities:

- MiniRam: airborne particulate monitor,
- MSA-361 Combustible Gas Indicator: measures O_2 concentration, lower explosive limit, and hydrogen sulfide concentration,
- 11.2 eV OVM: Organic Vapor Monitor for total volatile organics,
- 10.2 eV Photovac Snapshot: portable gas chromatograph for measuring individual site specific volatile organics,
- Gilian Pump: portable air pump for personnel exposure sampling.

The SHSO using the 10.2 eV Photovac Snapshot and the MiniRam performed real-time baseline ambient air monitoring. Readings were taken with the instruments at the Site boundary three times daily during the first three days of mobilization to establish baseline ambient airs readings. These monitoring locations were spaced 100 feet apart along the downwind Site boundaries and 250 feet apart along the upwind Site boundaries. A total of 32 baseline ambient air monitoring stations were established along the Site boundary. Baseline air readings were not exceeded as a result of site activities at any time during the project duration.

3.2.3 Storm Water Management

Storm water that ponded on the thermal treatment pad and within diked impacted soil stockpiles was collected, treated by on-site temporary water treatment plant (WTP), and discharged on-site in accordance with the NJDEP Discharge to Groundwater Permit Equivalent issued for this project.

3.2.4 Monitoring Well Abandonment

As originally specified on Construction Drawing C-1 (Existing Site Plan) a total of twenty (20) single-cased, unconsolidated monitoring wells located in Areas 1, 1A, 5, and east of Murray Hill Parkway were abandoned in accordance with the procedures established in N.J.A.C., 7:9-9.0 Sealing of Abandoned Wells. These wells are listed below:

- 6I, 7I, 7S, 7D, 8I,
- 9I, 10I, 17I, 18I, 19I,
- 20I, 21I, 22I, 24I, 25I,
- 27I, 28I, 30I, 31I, and 33S.

Monitoring wells 26I, 29I, 36, 37, and 38 were structurally damaged when construction equipment inadvertently collided with them during remedial activities. Subsequent to the damage, these wells were abandoned and replaced with new wells conforming to the location and construction of the original wells.

During well abandonment attempts were made to remove the inner well casing and screen at each well location. If the inner casing and screen could not be removed, they were left in-place. Each well was sealed with a mixture of sterilized cement/bentonite grout and city water. The grout was discharged at the bottom of the well via tremmie pipe. The grout was allowed to settle for 24-hours. After the 24-hour settling period expired, the remaining space at the top of the grouted well was filled with concrete forming a concrete slab flush with grade, 6-inches thick and 3-feet in diameter.

Well Abandonment Reports are located in Appendix C. The location of the abandoned wells are shown on Figure 3.

3.2.5 Monitoring Well Installation

Three shallow acquifer, single-cased, and unconsolidated monitoring wells namely 100, 101, and 102 were installed in accordance with NJDEP FSPM, May 1992. As previously mentioned in Section 3.2.4 of this report, wells 26I, 29I, 36, 37, and 38 were reinstalled after being damaged inadvertently by construction equipment and renamed 26I-R, 29 I-R, 36R, MW-37R, and MW-38R. Well records, Form A's and Form B's, are located in Appendix C.

4.0 FINDINGS/REMEDIAL ACTION

4.1 Work Sequence

Remediation and construction work in Areas 1, 1A, and 5 was sequenced in the following phases:

- Construct temporary access road,
- Clearing and grubbing
- Monitoring well installation,
- Construction of the on-site temporary water treatment plant,
- Installation of groundwater recovery trenches,
- On-site collection, treatment, and discharge of VOC impacted groundwater,
- In-situ soil sampling in accordance with the SAP/QAPP,
- Excavation and post-excavation sampling of PCB/cPAH, VOC, and lead impacted soil areas,
- Backfilling of remediated soil excavation areas with imported clean off-site fill,
- PCB/cPAH, VOC, and lead impacted soils chemically characterized as exceeding the site-specific remediation goals, but below the thermal treatment goals, were placed in the cap area,
- Cleaning and excavation of process/sanitary sewers,
- Cleaning of existing storm sewers and repair of inoperative storm sewers,
- Materials management of sediment collected from sanitary and storm sewer systems
- On-site thermal treatment of PCB/cPAH impacted soil and sediment chemically characterized as exceeding the site-specific thermal treatment goals,
- Successfully treated PCB/cPAH soil and sediment chemically characterized as being below the thermal treatment goals was placed in the cap area,
- On-site thermal treatment of VOC impacted soil chemically characterized as exceeding the site-specific thermal treatment goals,
- Successfully treated VOC soil and chemically characterized as being below the thermal treatment goals was placed in the cap area,
- Construction of the on-site multi-media cap over both the excavated or treated PCB/cPAH, VOC soil, and excavated lead impacted soil,
- Off-site disposal of PCB/cPAH soil in accordance with the amended 1993 ROD, and
- Surface grading and restoration of Areas 1, 1A, and 5 with clean imported fill.

4.2 Soil Excavation Operations

Soil excavation operations in Areas 1, 1A, and 5 were performed in accordance with the requirements of the ROD, RAWP, Construction Drawings, and Technical Specifications. A total in-place volume of approximately 55,719 cubic yards (cy) of soil, plus 450 cy of sediment was excavated during the remedial activities in Areas 1, 1A, and 5. Therefore, a total of 56,169 cy of soil and sediment was remediated from Areas 1, 1A, and 5 and placed beneath the on-site multi-media cap or disposed off-site. Table 3 shows a summary of the actual remediated soil and sediment volumes. The actual volume of excavated soil exceeded the estimated volumes detailed in Section 2.1 (Pre-Remediation Estimate) of this report for the following reasons:

- AlliedSignal decided to abandon storm and process sewers by excavating the soils around the sewers and down to the confining clay layer,
- The mass excavation of PCB/cPAH increased due to post-excavation chases in Areas 1, 1A, and 5, and
- The mass excavation of lead impacted soil increased due to a change in the cap profile in the area immediately east and west of the cap location.

The proposed limits of excavation were determined by the results of the remedial investigation activities. Areas 1, 1A, and 5 were divided into sub-areas D, E, F, G, H, I, L, M, N, O, P, and Q (Figure 4) to segregate soil areas into similar chemical constituent groups. This approach provided for the development of an area specific post-excavation sampling program. A summary of the sub-areas and their associated principal compounds are as follows:

Sub-area of Areas 1, 1A, and 5	Principal Compound
D	VOCs
E	VOCs and Lead
F	Lead
G, H, I, L, M, N, O, P	PCB/cPAH
P	PCB/cPAH
Q	Lead

These sub-area designations are referenced in various subsequent sections of this report.

Excavation of contaminated soils continued in each subarea until one of the following occurred:

- Post-excavation sample results indicated the remediation goals were achieved,
- Concrete foundations greater than two feet below grade were encountered by the excavation,
- Wetlands were encountered that were not part of the Uplands site remediation scope of work,
- The site property line was encountered,
- The NJ Transit R-O-W was encountered, or
- A utility easement was in close proximity to excavation activities.

This method of establishing excavation limits was established in the RAWP.

4.2.1 PCB/cPAH Soil

Soils impacted with PCB/cPAH concentrations above the site specific remediation goals were excavated to a depth of 2 feet below grade (groundwater table @ 2') and to the areal limits shown on Figure 5. A total of approximately 19,733 cy of soil primarily impacted with PCB/cPAHs was excavated from Subareas in Areas 1, 1A, and 5. Approximately 11,842 cy of this soil consisted of PCB/cPAH concentrations above remediation goals, but below thermal treatment goals. This soil was directly placed beneath the on-site multi-media cap. The remaining 7,891 cy of soil consisted of PCB/cPAH concentrations above the thermal treatment goals. This soil was stockpiled and treated via the on-site low temperature thermal desorption unit or transported off-site for disposal in accordance with the amended ROD.

4.2.2 VOC Soil

A total of approximately 11,874 cy of soil impacted with VOCs and some surficial lead was excavated from Subareas D and E. Soils impacted with VOC concentrations above the site specific remediation goals were excavated to the confining clay layer, approximately 7.5-8 feet below grade, and to the areal limits shown on Figure 5.

A total of 9,949 cy of this soil had VOC and lead concentrations above remediation goals, but below thermal treatment goals. This soil was excavated and directly placed in the on-site multi-media cap

area. A total of approximately 1,925 cy of soil with VOC concentrations above thermal treatment goals was excavated and stockpiled for subsequent thermal treatment. In lieu of thermal desorption, and as a technology demonstration, the soil was treated using on-site Thermally Enhanced Vapor Extraction (TEVE). The technology demonstration was successful as all 1,925 cy of VOC impacted soil was treated to below ROD requirements and placed in the on-site multi-media cap.

4.2.3 Lead Soil

Soils impacted with lead concentrations above the site-specific remediation goal were excavated to a depth of 2 feet below grade and to the areal limits shown on Figure 5. A total of 15,017 cy in-place of lead impacted soil was excavated from Areas 1, 1A, 5 and placed in the multi-media cap.

4.2.4 Soil Sampling and Analytical Results

In-Situ Sampling

In accordance with the SAP/QAPP field Standard Operating Procedures (SOPs), in-situ soil samples were collected from select PCB/cPAH impacted soil areas when it would facilitate the disposition of the excavated soil. The in-situ grid dimensions were 50' wide x 50' long x 2' deep representing approximately 185 cy in-place. In-situ soil samples were sent off-site to a certified NJDEP laboratory for analysis. The results of in-situ soil sample analytical results are summarized in Table 1 of Appendix A. Figure 4 shows the in-situ soil sample locations, summary of the analytical results, and proposed limits of excavation.

Post-Excavation Sampling

In accordance with the SAP/QAPP field SOPs, post-excavation soil samples were collected along each of the excavated sidewalls at the frequencies outlined in the SAP. Sidewall sampling was limited by the same factors which limited the soil excavation, namely, post-excavation sample results below the remediation goal, concrete foundations greater than 2 feet below grade (only in PCB/cPAH and lead areas), the site property boundary, or the NJ Transit R-O-W. The analytical results of post-excavation soil sample analytical results are summarized in Table A-2 of Appendix A. Figure 5 shows the post-excavation soil sample locations, summary of the analytical results, and the final limits of excavation.

Materials Management Sampling

Samples of excavated soils that were not chemically characterized by in-situ sampling means were collected every 200 cy from stockpiles, as outlined in the SAP under Section 4.2.1.2 – Materials

Management. The analytical results of the materials management sampling are summarized in Table A-4 of Appendix A. Figure 4 shows the materials management soil sample locations and a summary of the analytical results.

Cap Perimeter Surface Soil Sampling

In accordance with the approved SAP/QAPP, surface soil samples were collected along the perimeter of the proposed cap to chemically characterize the soil outside the areal limits of the cap. Cap perimeter surface soil samples above the site-specific remediation goals were excavated and managed in accordance with the SAP/QAPP. The analytical results of the cap perimeter surface soil samples are summarized in Table A-3 of Appendix A. Figure 5 shows the surface soil samples locations and a summary of the analytical results.

4.3 Sewer Network

A sewer evaluation consisting of a field inspection and findings report was conducted on the storm and process sewers in Area 1, 1A, and 5. The results of the sewer evaluation were reported in "Results of Sewer Evaluation, UOP Uplands Site, East Rutherford, New Jersey" (Canonie Technologies, September 1996). The sewer evaluation provided information that served as a basis for developing a scope of work and strategy to clean and/or flush the sewers, rehabilitate select storm sewers that were designated to remain in service, and to remove and abandon all process sewers and non-usable storm sewers. Inspection activities included field notes of catch basins and sewer pipe structural integrity and dimensions.

4.3.1 Process and Sanitary Sewers

All 2,030 linear feet of process sewers and sanitary sewers located within Areas 1, 1A, and 5, including the pipes, sediments, manholes and cleanouts were remediated. Process sewers varied in size from 4-inches to 18-inches in diameter, most of which were constructed of terra cotta (clay). 1,040 linear feet of process/sanitary sewer was cleaned in-place using a pressurized water operation. Approximately, 50 cy of sediment was removed from the cleaning process of the process/sanitary sewers. The wastewater from the cleaning process was collected and subsequently treated by the on-site temporary water treatment plant. Remaining manholes/cleanouts were sealed with concrete to prevent a pathway for any future migration of contamination.

The remaining 990 linear feet of process/sanitary sewer was excavated due to poor pipe structural integrity, which could not withstand the pressurized water cleaning operation. These process/sanitary sewers and their associated sediments were completely excavated. All excavated sewer pipes, manholes, and cleanouts were screened from the sediments and placed in the cap area. In addition to the sewer pipe, sewer sediments, and appurtenances, the surrounding and underlying soil was

excavated and removed down to the confining clay layer (7.5'-8' below grade). Although the ROD did not mandate this additional soil removal, it was removed to provide additional assurance of source removal. A total in-place volume of 2,633 cy of soil and sediment was excavated during the remediation of the process and sanitary sewers. Figure 6 shows the location of the remediated process/sanitary sewers within Areas 1, 1A, and 5.

4.3.2 Storm Sewers

All 2,600 linear feet of storm sewers located in Areas 1, 1A, and 5 are hydraulically connected to Ackerman's Creek and is almost at full capacity during the high tide cycle. Therefore, the field storm sewer survey was conducted during the low tide cycle when the sewers could be visually inspected and evaluated.

Storm sewer networks 1, 2, and 3 were visually inspected for the purpose of determining which sewer sections were functional, and which sewer sections were to be excavated. Removing a storm sewer consisted of removing the sewer pipe, catch basins/manholes, sediments, and the surrounding and underlying soil (to the confining clay layer). Based on the analytical results, sewer sediments were directly placed in the cap area or stockpiled for thermal treatment. Sewer pipeline sections and catch basins/manholes were screened from the sediments and placed within the confines of the multi-media cap. Sediments removed from the sewer pipeline sections and catch basins/manholes were stockpiled and chemically characterized for materials management purposes.

Prior to the cleaning or removing of a storm sewer, rubber inflatable plugs were inserted in the storm sewers at the discharge end to Ackerman's Creek to prevent sedimentation discharge to the Creek. The storm sewer cleaning/flushing was completed using a pressurized water operation, which dislodged accumulations of sediments and debris inside the pipelines. Flushing of storm sewers started at the most upgradient manhole/catch basin and proceeded downgradient. Approximately, 2,000 linear feet of storm sewer was cleaned/flushed in Areas 1, 1A, and 5.

By utilizing plugs strategically located at various points within the storm sewers, all flush water, sediment, and debris accumulated from cleaning was contained in a downstream manhole/catch basin. A 3,000-gallon high-pressure vacuum truck was used to collect the flush water, sediment, and debris. The flush water was decanted from the sediments and pumped to the on-site WTP for treatment. A total of approximately 100 cy of sediment was collected and managed during the cleaning of the storm sewer system in Areas 1, 1A, and 5.

Approximately 600 linear feet of storm sewer was excavated along with the sediments and soil underlying and surrounding the sewer pipelines and structures, including an in-place volume of 1,085 cy of soil and sediment. Figure 6 shows the location of the remediated storm sewers within Areas 1, 1A, and 5.

4.3.3 North Drainage Ditch

The north drainage ditch located along the northern fenceline of Block 105.01, Lot 8 is hydraulically connected to the remaining storm sewer network and to Ackerman's Creek. A property survey conducted in 1996 indicated that approximately half of the drainage ditch was not within the UOP property boundary, but actually located on the adjacent property to the north (Block 105.01). However, AlliedSignal removed from 1.0 to 1.5 feet of sediment throughout the entire length of the north drainage ditch. The total volume of sediment removed from the drainage ditch was approximately 300 cy, of which 225 cy was characterized as requiring thermal treatment via LTTD. Sediment was removed from the north drainage ditch based on the following:

- Sediment may have migrated into the ditch from the on-site stormsewer system, and

- Increase the flow capacity of the ditch to control and manage stormwater runoff from the low permeability cap area.

Upon the removal of the sediments from the north drainage ditch geotextile fabric was placed in the drainage ditch under a one-foot thick lift of imported quarry stone (2-3 inches in diameter). This construction increased the structural stability of the bottom and sides of the ditch and provided an added erosion control measure.

4.3.4 Sediment/Soil Analytical Results

Sediments removed from the process/sanitary and storm water sewers, north drainage ditch, and the excavated soil that surrounded the process/sanitary sewers were stockpiled and sampled in accordance with the SAP/QAPP, Section 4.2.1.2 - Materials Management, and the SAP/QAPP field SOPs. These results area summarized in Table A-5 of Appendix A.

4.4 Drum Excavation

During the installation of the groundwater collection trenches in Area 1, drum carcasses were discovered approximately 4 feet below grade adjacent to a concrete foundation. Immediate excavation, waste characterization, and off-site disposal of the drum carcasses were performed subsequent to the discovery of the drums. An estimated total of between 100 and 125 drum carcasses were uncovered, excavated, and disposed (micro-encapsulation) off-site in a Subtitle C landfill (Waste Management – Model City, NY, EPA ID# NYD049836679). The location and extent of this excavation is shown on Figure 5. Approximately 1600 cy of soil as a result of the drum excavation was stockpiled and managed in accordance with the SAP/QAPP. Analytical results are summarized in Table A-4 of Appendix A. The off-site disposal summary of the drums is included in Table 5.

4.5 Temporary Groundwater Collection Trenches

A total of 2,550 linear feet of groundwater collection trenches, extending to the confining clay layer, were constructed in Areas 1, 1A, and 5 for the purposes of extracting, collecting, and conveying the Class III-B groundwater to the temporary WTP. A total of 3,777 cy in-place soil was excavated during this operation. 400 cy of this soil was characterized as requiring thermal treatment via the Low Temperature Thermal Desorber (LTTD). The remaining soil was placed beneath the cap.

4.6 Thermal Treatment Operations

On-site Thermal Treatment of PCB/cPAH Impacted Soils and Sediments

A total of 8,219.90 tons (~6,323 cy) of PCB/cPAH impacted soil and sediments (includes soils and sediments from Areas 1, 1A, 2, and 5) above the thermal treatment goals was successfully treated utilizing the on-site indirect heated Low Temperature Thermal Desorber (LTTD). The LTTD was capable of reaching operating temperatures between 1,000 and 1,500 degrees Fahrenheit. The NJDEP/EPA approved LTTD operation performed in accordance with NJDEP Air Pollution Control Permit No. 01-96-2706. The soil was treated to below the treatment goals and placed beneath the cap. Table 4 shows a summary of the thermally treated soil stockpiles and their PASS/FAIL results.

LTTD Process Description

Site soils impacted with PCB/cPAH concentrations above the site specific thermal treatment goals were stockpiled and screened to a 2-inch minus consistency by means of a mechanical vibrating screener prior to being placed in the receiving hopper. The hopper discharged the soil onto an inclined feeder conveyor, which was equipped with a calibrated belt weigh scale. The belt scale kept a constant record of total soil passed, as well as the feed rate in tons per hour. A digital readout of the belt scale was located in the control room of the LTTD. A scale ticket printer was installed to give a real-time printout of the digital scale readings, and used to monitor soil volumes for stockpile management and tracking.

The LTTD consisted of an indirectly heated, high temperature steel rotary drum. The drum rotated in an insulated chamber, which was heated by two (2) gas fired burners. As the drum rotates the soil is continuously turned over which facilitates the transfer of heat from the heated chamber to the soil through the shell of the drum. The PCB/cPAH soil was heated to no more than 900 degrees Fahrenheit at which the contaminants volatilized. This is achieved under anaerobic conditions, thereby preventing oxidation.

The treated soil was then transported from the drum to the mixer/cooler where water was introduced to the treated soil for purposes of cooling and dust suppression prior to being transported onto a stacking conveyor for stockpiling. Subsequent to treating the soil a composite sample was collected in accordance with the NJDEP/EPA approved SAP/QAPP to monitor the effectiveness of the LTTD.

Off gases from the desorption process were continuously collected through a venturi scrubber by means of vacuum blowers. The scrubber removed any fines, which may have been carried over in the gas stream, and lowered the gas vapor temperature. These off gases were then routed through a dual coil condenser. By further reducing the gas temperature the condenser removed the majority of the moisture and contaminants from the gas stream. The gases were then reheated above the dew point so that moisture would not be deposited into the three carbon absorption units, which was the final stage of the pollution control process. The carbon units absorbed any contaminants remaining in the gas stream. Carbon in one of the units was impregnated with Potassium Tri-Iodide (KI_3) to absorb any potential Mercury contaminants in the gas stream. The clean gases were then released into the atmosphere in accordance with the limits set forth in the Air Pollution Control Permit issued by the NJDEP.

On-site Thermal Treatment of VOC Impacted Soils

A total of approximately 1,925 cy of VOC impacted soil from Areas 1, 1A, and 5 was chemically characterized as consisting of VOC concentrations above the VOC thermal treatment goals. This soil was successfully treated below the VOC thermal treatment goals during a pilot test utilizing an innovative technology called TEVE. The TEVE operation was approved by NJDEP/EPA and performed in accordance with NJDEP Air Pollution Control Permit No. 01-98-0417 and the NJDEP/EPA approved work plan titled "TEVE Pilot Test Workplan UOP", prepared by ABB Environmental Services, Inc., dated November, 1997.

A sampling plan and analysis plan was developed for the TEVE pilot test and implemented to assess the ability of the TEVE technology to meet the following site specific treatment goals:

- Total VOCs 100 ppm
- 1,1,2,2-tetrachoroethane 21 ppm

The results of the TEVE pilot test were submitted to the NJDEP/EPA under separate cover in a report titled "Post Remediation Data Report For the pilot Soil Remediation Project at the UOP Site East Rutherford, NJ", written by Hardon Lawson Associates (Formerly ABB Environmental Services, Inc.) dated September 3, 1998. NJDEP/EPA issued a comment letter dated October 9, 1998 in regards to the September 3, 1998 report. AlliedSignal responded and satisfied the comments in a letter dated October 19, 1998.

TEVE Process Description

The TEVE system operates by stockpiling the contaminated soil into a soil pile (stack), approximately 1,000 cy each, covered with a heavy gauge (10-mil) plastic sheeting, and applying heat to the pile to volatilize organic contaminants from the pile. The organics, which collect in the vapor stream, are then

treated in the TEVE exhaust gas treatment system prior to release into the atmosphere.

The soil piles (stacks) are constructed in three lifts, with hot air injection tubes placed on top of the first and second lifts, and vapor extraction tubes placed on top of the third lift. The soil stack is covered with plastic sheeting, and all duct entries, where the hot air injection tubes are inserted into the soil pile, are carefully sealed to prevent vapor leaks. Upon securing the cover, the 24-foot trailer that houses the TEVE System, is placed beside the soil stack, and connected with flexible duct to the inlet and outlet air injection tubes within the soil stack. Heat is slowly applied to the soil stack until the desired operating temperature is achieved.

Heated air at an average temperature of approximately 650 degrees Fahrenheit (°F) is injected into the soil pile at approximately 3,500 cubic feet per minute (cfm). Based on these operating conditions, the soil's temperature can be elevated from ambient temperature to between 150 degrees Fahrenheit and 450 degrees Fahrenheit. The heated air will move through the contaminated soil increasing the rate of contaminant volatilization within the soil stack. The contaminants are then drawn into the vapor extraction tubes and carried in the exhaust air stream and passed through the burn chamber.

The burn chamber operates at 1800 °F with a residence time of 0.5 seconds to ensure destruction of the organics within the exhaust gases. Approximately 10 percent makeup air is added ahead of the burn chamber to ensure complete oxidation of the organics in the gas stream, and ten percent of the air stream is them exhausted to the atmosphere. The remaining heated exhaust gas stream is re-injected into the soil pile. A catalytic reactor is provided ahead of the atmosphere vent to further oxidize any remaining organics in the exhaust gases before venting to the atmosphere.

A caustic scrubber was added to the exhaust gas stream to remove hydrochloric acid (HCL) emissions generated from the thermal destruction of chlorinated organics in the soil. This was a condition of the air permit issued by the NJDEP.

4.7 Off-site Waste Management

Waste materials generated from site activities that could not be managed by the on-site treatment technology and engineering controls were disposed off-site in accordance with federal and state regulations. These materials disposed off-site are categorized as follows:

- LTTD Operation Residuals,
- Temporary WTP Operation Residuals

- PCB/cPAH Impacted Soils
- Miscellaneous Wastes.

Treatment System Residuals

Select waste residuals generated from the site treatment systems, LTTD and the temporary WTP, were disposed off-site in accordance with applicable federal and state regulations. These residuals were disposed off-site due to the following:

- Contaminants exceeded the site specific treatment goals, and
- Levels of contaminant concentrations in the residuals exceeded the treatment capability of the applicable system.

Therefore, to be protective of human health and the environment, these select waste residuals were disposed off-site. The treatment system residuals disposed off-site were categorized as follows:

a) LTTD Operation Residuals:
   - Spent filter carbon (GAC)
   - Filter cake

b) Temporary WTP Residuals:
   - Spent filter carbon (GAC)
   - Spent clay filter material

PCB/cPAH Excavated Soils

Select excavated soils containing PCBs/cPAHs above the site-specific thermal treatment goals were disposed off-site upon the issuance of the ROD amendment. These soils were disposed off-site due to the operating cost inefficiencies associated with the on-site PCB/cPAH thermal treatment unit combined with the decrease in cost for off-site disposal.

Miscellaneous Wastes

Materials uncovered during soil excavations not associated with treatment residuals or site impacted soils were chemically characterized and managed accordingly. An estimated total of between 100 and 125 drum carcass was uncovered during the excavation in Area 1 and one drum was uncovered during excavation activities in Area 5. Based on the analytical results of these materials these wastes were disposed off-site in accordance with state and federal regulations

The following are the names and EPA ID#'s of the facilities that accepted the wastes:

- Waste Management - Model City Landfill, NY, EPA ID# NYD049836679
- Waste Management – G.R.O.W.S. Landfill, Morrisville, PA, EPA ID# PAD000429589

Table 5 provides a summary of each waste disposed from the site.

4.8 Backfill Operations, Source and Quality

Backfilling operations within remediated areas were performed concurrently with excavation activities. As contaminated areas were excavated, certified clean imported fill was placed as backfill. Backfilling to original grade immediately after excavating quickly restored the site and re-established prior drainage patterns.

Specification No. 02200 detailed backfill with maximum particle sizes of 6-inches and no more than 20% passing the No. 200 sieve. The 6-inch maximum particle size specification was modified by AlliedSignal to allow the use of common fill that consisted of boulders, reddish brown coarse to fine gravel and coarse to fine sand with little silt. Backfill consistently met the No. 200 sieve analysis specification. Additionally, a 4-inch lift of recycled concrete was used for final grading purposes. Documentation from each backfill supplier was provided certifying that the quality of the fill was virgin, uncontaminated, and identified the source of the fill.

Approximately 67,000 cy of clean fill material was imported from offsite borrow sources and utilized in Areas 1, 1A, and 5 for backfilling excavations, grading, and site restoration. Documentation as to the source, description, environmental quality, and other data of each type of imported fill is included in Appendix D.

4.9 Wetlands Restoration

A small wetland area on Block 105.01, Lot 8 was excavated as part of the remedial activities to address contamination in the area. The excavation and mitigation activities for this wetland area were permitted under a Stream Encroachment Permit (Permit No. 0212-95-001.3) and a Waterfront Development/Water Quality Certification Permit (Permit No. 0212-95-001.2). All regulated activities pertaining to these permits were completed. A condition of Permit No. 0212-95-001.2 was to mitigate the wetland area subsequent to excavation. This task was not completed. However, NJDEP authorized two new permits (Permit No. 0212-95-0001.10 and Permit No. 0212-95-0001.11), which allows Honeywell to fill 13.94 acres on Block 105.01, Lot 8 (including the area that was going to be mitigated under Permit No. 0212-95-001.2) and Block 105.02, Lot 5. Therefore, the obligation to mitigate the wetland area was transferred to a condition of mitigation under Permit No. 0212-95-0001.10 and Permit No. 0212-95-0001.11, which expire in 2004.

4.10 Cap Construction

All cap construction activities and associated materials were performed and placed in accordance with the NJDEP/EPA approved Construction Drawings and Design Specifications. Samples of all associated cap materials were submitted to the Project Engineer for approval prior to construction. The multi-media cap was constructed in the following order

1) Impacted soils and sediments with concentrations below the site-specific remediation and treatment goals were placed within the footprint of the cap area shown on Figure 2. These materials were graded and compacted and brought to a relatively smooth condition to complete the sub-grade preparation;

2) Separation geotextile, with physical properties in accordance with the Specifications, was stitched and placed on the prepared sub-grade;

3) A 6-inch thick lift of clean imported venting sand, exhibiting a permeability no less than 1×10^{-3} cm/sec was placed, graded, and compacted over the geotextile fabric;

4) A geosynthetic clay liner (GCL) with a permeability of 5×10^{-9} cm/sec was placed over the 6-inch thick bedding sand and sealed with bentonite along each seam. The GCL used at UOP is referred to as brand name "Bentomat ST", which is a reinforced GCL consisting of a layer of sodium bentonite between a woven and a non-woven geotextile needle-punched together. This particular bentonite is designed to resist adverse effects from saline environments, which is a characteristic of the UOP environment;

5) A 12-inch thick lift of clean imported drainage sand, exhibiting a permeability no less than 1×10^{-3} cm/sec was placed, graded, and compacted over the GCL; and

6) A drainage swale consisting of clean imported stone was constructed along the entire perimeter of the toe of the cap to store and transport stormwater runoff from the multi-media cap.

Finally, a 6-inch thick lift of clean imported topsoil was placed and graded over the cap area and eventually vegetated in accordance with the Soil Erosion and Sediment Control Plan. A security fence with a double gate entrance was constructed just outside the swale. The fence was constructed to deter unauthorized access to the cap area. The gate entrance will allow general grass maintenance equipment and crews to enter the cap area.

4.11 Groundwater

4.11.1 Class III-B Aquifer Classification

The October 1993 ROD provided for an interim remedy for groundwater. Subsequent to the issuance of the ROD, the shallow groundwater was designated in 1996 as a Class III-B aquifer, non-potable, and hydraulically connected to a saline surface water body. To date, Class III-B groundwater quality standards have not been promulgated by NJDEP. Since the ultimate receptor of the site groundwater is Berry's Creek via the tidally influenced Ackerman's Creek it was deemed appropriate to establish discharge limits that would be protective of these connecting surface water bodies.

4.11.2 Temporary Collection Trenches

A total of 2,550 linear feet of groundwater collection trenches were constructed in Areas 1, 1A, and 5 for the purposes of extracting, collecting, and conveying the Class III-B groundwater to the temporary WTP. The groundwater collection system in Areas 1, 1A, and 5 is shown on Drawing 3. Each collection trench was excavated down to the top of the confining clay layer (8' below grade). The bottom of the trench was backfilled with 6-inches of clean off-site bedding sand. A 4-inch diameter perforated polyethylene pipe was placed on top of the bedding material and covered with a filter sock to filter out the fines. The pipe was pitched to allow groundwater to flow to a 12-inch diameter corrugated plastic standpipe installed to function as a collection sump. Each sump was equipped with an electrical submersible pump capable of conveying groundwater to the WTP via PVC piping. Each trench was backfilled with imported quarry stone ranging from 1-2 inches in diameter.

4.11.3 Water Treatment

A total of 4,853,009 gallons of groundwater was treated from Areas 1, 1A, and 5 by the temporary on-site Water Treatment Plant (WTP), located in Area 1. The temporary WTP was constructed to manage and treat on-site groundwater, stormwater, and other liquids during remedial activities. Liquids were transported to the WTP via submersible and centrifugal pumps through Schedule 80 Poly Vinyl Chloride (PVC) piping at rate of approximately 40 gallons per minute (gpm). Digital flow meters were installed at various locations within the WTP process to track the cumulative volume of groundwater treated.

A Discharge to Groundwater (DGW) Permit Equivalent was obtained from the NJDEP/EPA, which authorized the discharge of all treated liquids that met the permit limits to select areas on-site (i.e. cap area, Area 2, and former lagoon area). The DGW permit also established guidelines for the WTP operations and effluent discharge limits. The WTP effluent was sampled each month in accordance with SAP/QAPP Section 4.2.2.2 - Effluent Sampling. After each round of monthly effluent sampling an effluent monitoring report was signed by a licensed N_2 operator and submitted to the NJDEP.

DGW Permit Equivalent Exceedances

Select parameter limits of the DGW Permit Equivalent effluent were exceeded on two separate occasions due to the ineffectiveness of the granular activated carbon (GAC). The DGW Permit Equivalent effluent limits for PCBs (0.5ug/l) and Toluene (80ug/l) were exceeded on December 5, 1996 at 93.1ug/l and 114ug/l, respectively. Approximately 216,000 gallons of site water (groundwater and stormwater) was discharged between November 20, 1996 and December 5, 1996 that exceeded the DGW Permit Equivalent limits. Conservative calculations assuming all 216,000 gallons was non-compliant are that 0.01 pounds of PCBs and 0.01 pounds of Toluene were discharged. The November 20th effluent sample results were below the DGW Permit Equivalent limits. Therefore, the volume of site water exceeding the DGW Permit Equivalent limits and discharged to the site has been calculated from November 20th through December 5th. However, this calculated volume of contaminated water may be actually less if the WTP GAC malfunctioned at a date later than November 20th.

The DGW Permit Equivalent discharge limits for PCBs were also exceeded on December 1, 1998 at 0.736ug/l. Approximately 172,800 gallons of site water (groundwater and stormwater) was discharged between November 10, 1997 and December 1, 1997 that exceeded the DGW Permit Equivalent limits. It has been calculated that 7.4×10^{-5} pounds of PCBs were discharged to the site as a result of this exceedance. The November 10th effluent sample results were below the DGW Permit Equivalent limits. Therefore, the volume of site water exceeding the DGW Permit Equivalent limits and discharged to the site has been calculated from November 10th through December 1st. However, this calculated volume of contaminated water may be actually less if the WTP GAC malfunctioned at a date later than November 10th. Because sampling is done once each month the volume of contaminated water can only be calculated from this interval.

Immediately upon notification of these exceedances the NJDEP was notified and actions were taken to mitigate the problem. Upon change-out of the GAC and the addition of an in-line clay-filtering unit the problems were mitigated. An effluent sample was collected after the modifications to verify the WTP was operating properly and the effluent results were in compliance with the DGW Permit Equivalent. The WTP was restarted only after the effluent results were below the limits of the DGW Permit Equivalent.

4.12 Downgradient Monitoring Wells

Monitoring wells MW-100, MW-101, and MW-102 were constructed for the purpose of monitoring the groundwater downgradient of the WTP effluent discharge area. At minimum, one of these wells was sampled quarterly during WTP operations in accordance with the SAP. This sampling was performed to monitor any impacts to the groundwater from the WTP effluent. The results of these groundwater samples have shown that the groundwater was not impacted from the WTP effluent discharge. The

location of these wells are shown on Figure 3. The results of these groundwater samples are located in Table A-8 of Appendix A.

4.12.1 Groundwater Analytical Results

Upon start-up of the collection system, the groundwater was sampled at one-month intervals from selected collection sumps. Samples collected from temporary groundwater collection trenches in Areas 1, 1A, and 5 were sampled in accordance with SAP/QAPP, Section 4.2.2.1 - Liquids Management and the SAP/QAPP field SOPs. Groundwater analytical results are summarized in Table A-8 of Appendix A. Groundwater VOC trend graphs are also included in Appendix A showing the concentration-time correlation for Areas 1, 1A, and 5.

As part of an engineering evaluation to determine whether additional future groundwater remediation would be warranted for Areas 1, 1A, and 5, the groundwater analytical data was compared to the NJDEP Surface Water Quality Criteria for Ackerman's Creek and Berry's Creek, which are the receptors. As noted previously, the shallow groundwater within Areas 1, 1A, and 5 is hydraulically connected to these saline receptors. A total of 21 sumps exist in Areas 1, 1A, and 5. Select sumps were sampled on a monthly basis to monitor the groundwater during the operation of the interim temporary groundwater treatment system. Groundwater analytical data, from select sumps in Areas 1, 1A, and 5, were compared to the NJDEP Surface Water Quality Criteria. Most VOC constituents present and detected in the groundwater exhibit a decreasing trend in concentration after the operation of the collection trenches.

The groundwater analytical results were compared to the NJDEP Chronic Aquatic Saltwater Surface Water Quality Criteria (CASSWQC). If a Chronic Aquatic Saltwater Surface Water Quality Criterion was not listed for a particular compound, the Chronic Human Health Surface Water Quality Criterion was (CHHSWQC) used as a measure of comparison for evaluation. The NJDEP Class III-B determination letter and Surface Water Quality Criteria are provided in Appendix B.

<u>Summary of Groundwater Results</u>

The following is a summary of the exceedances of the NJDEP Surface Water Quality Criteria for each sump sampled in Areas 1, 1A, and 5. In general, groundwater samples were analyzed for Volatiles, Base Neutral and Acid Extractables, PCBs (filtered and unfiltered), Arsenic, and Lead.

<u>Sump 1</u>

Four rounds of samples were collected from Sump 1.

Two rounds of samples detected Benzene (931ug/L and 103ug/L), above the NJDEP CHHSWQC (71 ug/L). However, the Benzene concentration was below the NJDEP CHHSWQC in the last sampling round at a concentration of 29ug/L, showing a decreasing trend. Two rounds of samples detected Lead (25.5ug/L and 15.5ug/L), above the NJDEP CASSWQC. However, the last round was below this criterion. One round of samples detected Bis(2-Ethylhexyl)phthalate (5.5ug/L), above the NJDEP CHHSWQC of 5.92ug/L.

Sump 2

Three rounds were collected from Sump 2. One round detected Lead (77.3ug/L), above the NJDEP CASSWQC (8.1ug/L). Each unfiltered round detected PCBs above the NJDEP CHHSWQC (0.000045ug/L). However, the filtered samples did not detect PCBs.

Sump 3

Four rounds were collected from Sump 3. Two rounds detected Benzene (103ug/L and 115ug/L) above the NJDEP CHHSWQC (71ug/L). However, the final round was below the criterion, indicating a decreasing trend.

Sump 4

Four rounds were collected from Sump 4. One round detected Lead (10ug/L), above the NJDEP CASSWQC (8.1ug/L).

Sump 5

Three rounds were collected from Sump 5. All rounds detected Benzene (1,420ug/L, 83.1ug/L, and 160ug/L), above the NJDEP CHHSWQC (71ug/L).

Sump 6

Ten rounds were collected from Sump 6. One round detected Vinyl Chloride 709ug/L above the NJDEP CHHSWQC (525ug/L). However, all other rounds were below the criterion and showed an overall decreasing trend. Two rounds detected Trichloroethene (195ug/L and 115ug/L), above the NJDEP CHHSWQC (81ug/L). However, subsequent sampling rounds were below the criterion, indicating a decreasing trend. Nine rounds detected Benzene above the NJDEP CHHSWQC with a fluctuating trend. One round detected 1,1,2,2 Tetrachloroethene (4,814ug/L) above the NJDEP CHHSWQC. However, all subsequent rounds were below the criteria and showed an overall decreasing trend.

Sump 7

Sump was abandoned after it was damaged. No samples were collected.

Sump 8

Four rounds were collected from Sump 8. All rounds detected Benzene (2,770ug/L, 744ug/L, 680ug/L, and 780ug/L) above the NJDEP CHHSWQC (71ug/L). However, a steady state or slight decreasing trend is noticed. All unfiltered rounds detected PCBs above the NJDEP CHHSWQC. However, the filtered samples did not detect PCBs.

Sump 9

One round was collected from Sump 9. Benzene (1,130ug/L) was detected above the NJDEP CHHSWQC (71ug/L). Lead was detected (54ug/L), above the NJDEP CASSWQC (8.1ug/L). Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, and Benzo(a)pyrene were detected above the NJDEP CHHSWQC (0.031 for all compounds). PCBs were detected in the unfiltered sample at 111ug/L. A filtered sample was not collected.

Sump 9 was abandoned subsequent to the first round of sampling due to damage.

Sump 10

Two rounds were collected from Sump 10. Benzene was detected in both rounds (222ug/L and 728ug/L), above the NJDEP CHHSWQC (71ug/L). Lead was detected in one round (10.7ug/L), above the NJDEP CASSWQC (8.1ug/L). Bis(2-chloroethyl)ether was detected in one round 3.6ug/L above the NJDEP CHHSWQC (1.4ug/L). Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, and Indeno(1,2,3-cd)pyrene were detected in one round above the NJDEP CHHSWQC (0.031 for all compounds). PCBs were detected in one unfiltered round at 6.88ug/L, above the NJDEP CHHSWQC (0.000045ug/L). However, an unfiltered sample was not collected.

Sump 11

Three rounds were collected from Sump 11. One round detected Benzene 270ug/L above the NJDEP CHHSWQC (71ug/L). One round detected Bis(2-Ethylhexyl)phthalate 120ug/L above the NJDEP CHHSWQC (5.92ug/L). PCBs were detected in two unfiltered rounds 1.84ug/L and 0.56ug/L above the NJDEP CHHSWQC (0.000045ug/L). However, the filtered samples showed PCB concentrations below the criterion.

Sump 12

Eleven rounds were collected from Sum 12. Seven rounds detected Benzene above the NJDEP CHHSWQC (71ug/L). However, the last two sampling rounds were below the criterion and showing a decreasing trend. Four unfiltered rounds detected PCBs above the NJDEP CHHSWQC (0.000045ug/L). However, filtered samples indicated PCBs concentrations were below the criterion.

Sump 13

Nine rounds were collected from Sump 13. Three rounds detected Benzene (206ug/L, 84.1ug/L, and 78ug/L) above the NJDEP CHHSWQC with an apparent decreasing trend. Lead was detected in one round 16.0 ug/L above the NJDEP CASSWQC (8.1ug/L).

Sump 18

Two rounds were collected from Sump 18. Both rounds detected Benzene (156ug/L and 97ug/L), above the NJDEP CHHSWQC (71ug/L). However, and a decreasing trend is apparent. Lead was detected (10.9 ug/L) above the NJDEP CASSWQC (8.1ug/L).

Sump 19

Two rounds were collected from Sump 19. Both rounds detected Benzene (169ug/L and 100ug/L), above the NJDEP CHHSWQC (71ug/L). However, a slight decreasing trend is apparent.

Sump 20

Three rounds were collected from Sump 20. One round detected Trichloroethene (91ug/L) above the NJDEP CHHSWQC (81ug/L). However, the subsequent sampling round was below the criterion. One

round detected Benzene (210ug/L), above the NJDEP CHHSWQC. However, the subsequent sampling round was below the criterion. Two rounds detected Lead (8.9ug/L and 18.4ug/L) above the NJDEP CASSWQC (8.1ug/L). However, the subsequent sampling round was below the criterion.

Sump 21

Three rounds were collected from Sump 21. All rounds detected Benzene (160ug/L, 110ug/L, and 230ug/L), above the NJDEP CHHSWQC (71ug/L).

Sump 22

Four rounds were collected from Sump 22. All rounds detected Trichloroethene above the NJDEP CHHSWQC (81ug/L) with a fluctuating trend. Benzene was detected in three rounds above the NJDEP CHHSWQC (71ug/L) with a fluctuating trend. Tetrachloroethene was detected in two rounds (4.7ug/L and 4.4ug/L), above the NJDEP CHHSWQC (4.29ug/L). Lead was detected in one sampling round, 21.6ug/L, above the NJDEP CASSWQC (8.1ug/L).

MW-36

One sample round was collected from MW-36. Lead was detected (38.4ug/L), above the NJDEP CASSWQC (8.1ug/L). PCBs were detected (0.97ug/L) in an unfiltered sample above the NJDEP CHHSWQC (0.000045ug/L). However, an unfiltered sample was collected with concentrations below the NJDEP CHHSWQC for PCBs.

MW-37

One round was collected from MW-37. Trichloroethene was detected (114ug/L), above the NJDEP CHHSWQC (81ug/L). Benzene was detected (117ug/L), above the NJDEP CHHSWQC (71ug/L). Tetrachloroethene was detected (36.4ug/L), above the NJDEP CHHSWQC (4.29ug/L). N-Nitrosodiphenylamine was detected (16.2ug/L) above the NJDEP CHHSWQC. (16ug/L). Bis-2-Ethylhexyl)phthalate was detected (94.3ug/L) above the NJDEP CHHSWQC.

MW-38

One round was collected from MW-38. Lead was detected (28.0 ug/L) above the NJDEP CASSWQC (8.1ug/L).

Groundwater Discussion

The environmental impacts to the groundwater from previous source leaching have been mitigated due to the following remediation actions performed by AlliedSignal:

- Source removal of almost 12,000 cy of VOC impacted soil, lead, and PCB/cPAH soil,
- Remediation of the site sewer network, and
- The collection and treatment of over 4.8 million gallons of groundwater in Areas 1, 1A, and 5,

These remedial actions are reflected in the decreasing VOC concentration trends shown in the VOC graphs, which are located in Appendix A.

The detection of lead in select groundwater samples is likely an artifact of total suspended solids because the lead samples were unfiltered and the low solubility of lead in water.

The detection of PCBs in select groundwater samples is also likely an artifact of total suspended solids based on: 1) The low solubility of PCBs in water (0.054mg/L), 2) The non-detection of PCBs in the filtered samples.

The shallow groundwater in Areas 1, 1A, and 5 has been classified as a non-potable, Class III-B aquifer, hydraulically connected to a saline surface water body.

4.13 Construction Quality Assurance Documentation

4.13.1 Data Validation

Analytical reports met the requirements of the Reduced Laboratory Data Deliverables (Non-EPA Contract Laboratories Program Methods) as defined in the Data Quality Objectives in the SAP/QAPP. Two separate internal data validation reports were published by ENSR on August 30, 1996 and September 27, 1996 for samples collected during Site remediation activities. Data were reviewed using the NJDEP Standard Operating Procedures (SOP) Quality Assurance Data Validation of Analytical Deliverables-TCL-Organics (SOP No. 5.A.13) as guidance. The SOP was modified to reflect the level of data deliverable and the use of non-CLP methods. In summary, based on the laboratory data audits, all validated data was useful and informative, and therefore was used for field decision-making purposes.

In addition, the Contractor's Laboratory Quality Assurance Manager and the Construction Quality Assurance Engineer continuously reviewed the Level IV analytical data packages for any deficiencies or inconsistencies. Two individual data validation inquiries were submitted by the Contractor's Laboratory Quality Assurance Manager to the certified laboratory on September 13, 1996 and January 9, 1997. The certified laboratory responded to each inquiry to make all data usable for field decision-making purposes.

Two individual field quality assurance audits were also conducted and reported by the Contractor's Quality Assurance Manager on September 18, 1996 and December 12, 1996. The audit reports served to document the field audit findings, to notify field personnel and project management of all deficiencies encountered, and to provide a mechanism for corrective actions and quality assurance recommendations.

4.14 SAP Modifications and Variances

The following SAP modifications and variances relevant to Area 1, 1A, and 5 were implemented during remediation activities:

1) On-site PCB soil immunoassay analyses ceased June 1996 after results determined the inconsistent accuracy compared to the certified laboratory results. It was determined that non-targeted organic analyte concentrations caused interference with the immunoassay results. Therefore, all samples were sent off-site to a certified laboratory for analysis, and

2) On-site soil and water gas chromatography analysis was not implemented during remediation activities due to non-target compound interference. All samples were sent off-site to the certified laboratory for analysis.

5.0 ELECTRONIC DATA SUBMITTAL

A diskette labelled "Analytical Results" for UOP Uplands – Areas 1, 1A, and 5 located in Bergen County, East Rutherford, New Jersey is enclosed in this Section. This diskette contains the electronic data from the environmental samples collected during the remedial actions in Areas 1, 1A, and 5. The electronic data submittal requirement became effective July 17, 1997 in accordance with the TRSR. However, based on the NJDEP letter, dated March 24, 1998 (Appendix B), only sampling conducted after January 18, 1998 is required to be in the electronic data format. This variance from the TRSR effective date of July 17, 1997 is based upon the implementation of the November 6, 1996 RAWP within four months of NJDEP/EPA approval. Therefore, the data contained in this diskette is from samples collected after January 18, 1998.

6.0 REGULATORY COMPLIANCE SUMMARY - AREAS 1, 1A, AND 5

6.1 Soil

Remediation of impacted soils in Areas 1, 1A, and 5 was accomplished in accordance with the requirements of the ROD as approved by the NJDEP/EPA. Successfully treated soils were not used as on-site backfill, but rather were placed in the cap area or disposed off-site. Imported clean fill was used to backfill all excavations.

PCB impacted soils in Areas 1, 1A, and 5 with concentrations greater than 25 mg/kg were excavated and stockpiled for thermal treatment. PCB impacted soils with concentrations between 2 mg/kg and 25 mg/kg were excavated and placed in the cap area. cPAH impacted soils with total cPAH concentrations 29 mg/kg and greater were excavated and stockpiled for thermal treatment. cPAH impacted soils with total cPAH concentrations below 29 mg/kg, in conjunction with individual cPAH concentrations greater than remedial standards, were excavated and placed in the cap area. VOC impacted soils with total concentration greater 1,000 mg/kg were excavated and stockpiled for thermal treatment. Soils with 1,1,2,2 - Tetrachloroethane concentrations greater than 21 mg/kg were excavated and treated via TEVE. Soils containing VOC concentrations below the remedial standards were excavated and placed beneath the multi-media cap.

In accordance with the approved RAWP, excavation of contaminated soils continued in each of the Subareas of 1, 1A, and 5 until one of the following occurred:

- Post-excavation samples indicated the remedial goals were achieved,
- Concrete foundations greater than two feet below grade were encountered, or
- The site property line was encountered

In conclusion, all soil remediation requirements, goals, and objectives have been achieved in accordance with the ROD, RAWP and Site specific permits.

6.2 Groundwater

6.2.1 Groundwater Quality Criteria

The shallow groundwater in Areas 1, 1A, and 5 has been classified as a non-potable, Class III-B aquifer, hydraulically connected to a saline surface water body. NJDEP provided Surface Water Quality Criteria to AlliedSignal as a measure of comparison for evaluation with groundwater analytical

data. Therefore, the groundwater data was compared to the NJDEP Chronic Aquatic Saltwater Quality Criteria in an effort to be protective of local receptors. If a Chronic Aquatic Saltwater Surface Water Quality Criteria was not listed for a particular compound, the Chronic Human Health Surface Water Quality Criteria was used for comparison.

6.3 Off-Site Waste Management

PCB/cPAH impacted soils were disposed off-site in accordance with the amendment to the 1993 ROD. Residual wastes from thermal operations were disposed from the site in accordance with State and Federal regulations. All materials disposed from the site were transported and placed in an approved and regulated landfill.

6.4 Site Restoration

The Uplands of Areas 1, 1A, and 5 were restored in accordance with the final grading plan and the SESCP. All excavations were backfilled with imported clean fill. All thermally treated soils were placed beneath an engineered cap.

6.5 Temporary Remedial Action Structures

The grass covered multi-media cap is located in the northeast portion of the site of Block 105.01, Lot 8. The cap is approximately 4.5 acres in size and 20 feet in height, at the highest point. Swales constructed around the perimeter of the cap collect and manage stormwater runoff from the cap.

The temporary groundwater collection system exists in Areas 1, 1A, and 5. The system was shut down after the requirements of the ROD were satisfied. 2,550 linear feet of inactive groundwater collection trenches exist in Areas 1, 1A, and 5. Each collection trench is constructed of a 4-inch diameter perforated polyethylene pipe, 2-inch diameter conveyance piping, 12-inch diameter standpipe, electric sump pump, and weatherproof electrical wiring. Figure 3 shows the plan view of the groundwater collection system.

6.6 Approved Use Restrictions

Upon approval of the RAR for Areas 1, 1A, and 5, applications and submissions for all required deed restrictions, land use restrictions and/or institutional controls will be prepared. Honeywell anticipates that a deed restriction will be required for soils below existing intact concrete foundations equal to or greater than 24-inches below grade. Post-excavation samples above remediation goals, which abut wetlands, will be addressed during the Area 4 environmental activities. Groundwater has been classified by the NJDEP as a non-potable Class III-B aquifer. No added use restrictions on groundwater are anticipated.

6.7 Remedial Action Tasks Completion Summary

The following is a summary of the key tasks associated with UOP Uplands Areas 1, 1A, and 5 site remediation and the completion status for these tasks.

Key Remediation Tasks (Per RAWP Chapter 3)	Status of Completion
Development and approval of final construction documents for thermal desorption unit and upgrading of temporary WTP;	Task Completed
Submission and approval of permits and revised RAWP required for operation of thermal desorption unit and upgraded temporary WTP;	Task Completed
Mobilization of the thermal desorption unit;	Task Completed
Commence with thermal desorption;	Task Completed
Excavation of surficial soils at the required rate to maintain steady operation of the thermal desorption unit. Material will be excavated from Areas 1 and 5. The temporary WTP will be utilized to support dewatering efforts as required;	Task Completed
Removal of sediment from storm, process, and/or sanitary system in Areas 1, 1A, and 5. Upgrade storm sewers as directed;	Task Completed
Excavate PCB/cPAH soils from Areas 1, 1A, and 5 which do not require treatment, and place beneath soil cap in Area 5;	Task Completed
Removal of surficial lead containing soil from the area between the cap and limits of wetlands and restoration of this area with a soil cover;	Task Completed (See Note 1)
Installation of a soil cover in sections of Area 5 as identified on the Construction Drawings;	See Note 1
Replication and restoration of wetlands that had been disturbed by removing surficial soil for thermal desorption; and	See Note 2
As treated material is placed in Area 5, the continued construction of soil cover/cap as required.	See Note 1
Groundwater collection and treatment;	Task Completed

Key Remediation Tasks (Per RAWP Chapter 3)	Status of Completion
Backfilling of treated soils;	Not Applicable (All thermally treated soils were placed beneath the multi-media cap area or disposed off-site); imported clean fill was used to backfill excavations.

A final action for groundwater may be addressed as allowed on page 3 of the 1993-ROD in the Section entitled "Scope and Role of Operable Unit or Response Action Within Site Strategy."

Notes:

1. Soils between the toe of the cap and the property boundary and/or wetlands were excavated to 2 feet below grade and placed beneath the cap. Excavations were backfilled with imported clean fill.

2. Soils were removed, as planned, from the wetland areas adjacent to Area 4 (Stream Channels) shown on Construction Drawing C-2. Based on post-excavation sample exceedances, the area of excavation exceeded the limits shown on C-2. Due to pending regulatory issues related to the future Area 4 remedial investigation and proposed development in this area, the wetlands mitigation will be addressed as part of the Area 4 remediation (see Section 4.9).

7.0 REMEDIAL ACTION COST SUMMARY

ACTIVITY	COST
Security	$164,000
Construction of Access Road	$200,000
Clearing and Grubbing	$67,000
Groundwater Collections System Installation	$250,000
Treatment of Groundwater	$765,000
Sewer Evaluation	$54,000
Remediation/Rehabilitation of Sewers	$370,000
Excavation of Contaminated Soil	$1,302,000
Imported Clean Backfill	$1,643,000
Thermal Treatment of PCB/cPAH Soil	$1,097,000
Thermal Treatment of VOC Soil	$250,000
Construction of Cap	$675,000
Remedial Action Report	$40,000
Engineering Oversight	$573,000
Offsite Waste Disposal	$733,000
TOTAL	**$8,183,000**

Estimated annual cost for operation and maintenance of Areas 1, 1A, and 5: $50,000

8.0 PROFESSIONAL ENGINEER APPROVAL AND AS-BUILT CERTIFICATION

This Remedial Action Report entitled "Remedial Action Report; Areas 1, 1A, and 5 - Block 105.01, Lot 8; UOP Uplands Site Remediation; East Rutherford, New Jersey"; prepared by ENSR Consulting and Engineering, dated August 31, 2000, has been reviewed and approved, and is hereby certified by Steven J. Surman, P.E. (NJ P.E. License No. 41173). The NJ Professional Engineer's seal is affixed to this Approval and As-Built Certification page and to the five full-size drawings located in the FIGURES Section of this report.

Steven J. Surman

Signature

Steven J. Surman, P.E.
NJ License 41173

8-31-00

Date

TABLE 1
SUMMARY OF REMEDIATION GOALS FOR THE PRINCIPAL SITE COMPOUNDS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Medium	Compound	Remediation Goal (mg/kg)
Surface Soils Delineated As PCB/cPAH or Lead Contaminated	Individual cPAHs	(Note 1)
	Benzo (b) fluoranthene	4
	Benzo (a) anthracene	4
	Benzo (k) fluoranthene	4
	Benzo (a) pyrene	0.66
	Chrysene	40
	Dibenzo (a,h) anthracene	0.66
	Indeno (1,2,3 - cd) pyrene	4
	Total cPAHs	29 (Note 1)
	Total PCBs	2 (Note 2)
	Total Lead	600
Surface and Subsurface Soils Delineated as VOC Contaminated	Total VOCs	1000 (Note 3)
	1,1,2,2 - Tetrachloroethane	21 (Note 4)
Sewer Sediments	Same as all above	Same as all above
Groundwater	Individual VOCs Total VOCs	1mg/l (Note 5) 10 mg/l

Notes:
1. Untreated soil or sediment was placed beneath the multi-media cap when any individual cPAH concentration was equal to or exceeded it's associated remediation goal, and when total cPAH concentrations were below or equal to 29 mg/kg. Total cPAH concentrations >29 mg/kg required thermal treatment.
2. Untreated soil or sediment was placed beneath the cap when total PCB concentrations were equal to or exceeded 2 mg/kg, Total PCBs concentrations > 25 mg/kg required thermal treatment.
3. Untreated soil or sediment was placed beneath the cap when total VOC concentrations were equal to or < 1,000 mg/kg.
4. Untreated soil or sediment was placed beneath the cap when 1,1,2,2-Tetrachloroethane concentrations were equal to or < 21 mg/kg.
5. Groundwater exceeding the individual or total VOC remediation goals of 1 mg/l and 10 mg/l, respectively was treated by the on-site temporary water treatment plant. Treated groundwater satisfying the limits of the NJPDES discharge to groundwater permit equivalent was discharged on-site in approved areas.

VOCs - Volatile Organic Compounds
cPAHs - carcinogenic Polycyclic Aromatic Hydrocarbons
PCBs - Polychlorinated Biphenyls

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TABLE 2
SUMMARY OF THERMAL TREATMENT GOALS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Medium	Compound	Treatment Goals (mg/kg) per 1995 RAWP	Revised Treatment Goals (mg/kg) (Note 1)
	Individual cPAHs		
Surface Soils Delineated As PCB/cPAH or Lead Contaminated	Benzo (b) fluoranthene	<4	Note 2
	Benzo (a) anthracene	<4	"
	Benzo (k) fluoranthene	<4	"
	Benzo (a) pyrene	<0.66	"
	Chrysene	<20	"
	Dibenzo (a,h) anthracene	<0.66	"
	Indeno (1,2,3 - cd) pyrene	<4	"
	Total cPAHs	<20	Same as 1995 RAWP Requirements
	Total PCBs	<2	<10
Surface and Subsurface Soils Delineated as VOC Contaminated	Volatile Organic Compounds (VOCs)		
	Total VOCs	<100	No change
	1,1,2,2 - Tetrachloroethane	<21	No change

Notes:
1. Revised treatment goals approved per January 8, 1997 NJDEP/EPA letter. The revised treatment goals continued to satisfy the minimum requirements of the 1993 ROD.
2. No treatment goals required for individual cPAHs, only total cPAHs and total PCBs.

VOCs - Volatile Organic Compounds
cPAHs - carcinogenic Polycyclic Aromatic Hydrocarbons
PCBs - Polychlorinated Biphenyls
RAWP - Remedial Action Work Plan

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Table 4
Summary Reusits of Thermally Treated PCB/cPAH Soil
Low Temperature Thermal Desorber
UOP - Areas 1, 1A, and 5
Remedial Action Report

	Treated Material		Revised Treatment Goals		Reporting Purposes Only							Result	Retreat Material	
	TONS	TOTAL TONS	TOTAL PCBs	TOTAL cPAHs	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h,)anthracene	Indeno(1,2,3-cd)pyrene	PASS or FAIL	TONS	TOTAL TONS
	-	-	**10**	**20**	**4**	**4**	**4**	**0.66**	**20**	**0.66**	**4**			
PILE # 1	**192.45**	192.45	**6.59**	**28.40**	4.77	7.39	2.93	4.46	4.41	1.39	3.05	FAIL	N/A	N/A
PILE # 2	**107.80**	300.25	**9.22**	**28.60**	5.03	6.19	3.57	4.57	4.95	1.39	2.91	FAIL	N/A	N/A
PILE # 3	186.96	487.21	0.483	8.48	0.871	2.14	1.79	1.18	1.05	0.385	1.06	PASS	N/A	N/A
PILE # 4	201.28	688.49	1.05	16.90	2.03	4.03	2.52	3.02	2.13	1.00	2.16	PASS	N/A	N/A
PILE # 5	165.29	853.78	1.43	15.10	1.73	3.77	2.09	2.81	1.78	0.895	2.00	PASS	N/A	N/A
PILE # 6	206.37	1,060.15	0.38	<0.714	<0.714	<0.714	<0.714	<0.179	<0.714	<0.179	<0.714	PASS	N/A	N/A
PILE # 7	199.98	1,260.13	1.28	19.40	2.62	5.24	2.07	3.84	2.85	0.727	2.01	PASS	N/A	N/A
PILE # 8	199.98	1,460.11	1.53	20.00	2.67	5.84	2.36	3.54	2.64	0.77	2.17	PASS	N/A	N/A
PILE # 9	193.15	1,653.26	3.53	16.50	2.67	4.47	1.65	2.99	2.59	0.528	1.6	FAIL	N/A	N/A
PILE # 10	**200.58**	1,853.84	2.09	38.54	5.64	10.4	3.94	7.41	5.73	1.34	4.08	FAIL	N/A	N/A
PILE # 11	**203.00**	2,056.84	1.99	45.20	6.59	10.5	5.2	8.73	6.96	1.85	5.29	FAIL	N/A	N/A
PILE # 12	191.90	2,248.74	0.998	7.94	1.07	1.84	1.06	1.42	1.12	0.342	1.08	PASS	N/A	N/A
PILE # 13	**203.64**	2,452.38	2.9	10.90	1.57	2.72	0.992	2.07	1.66	0.46	1.47	FAIL	N/A	N/A
PILE # 14	**189.70**	2,642.08	1.49	**25.80**	4.3	6.26	1.93	4.84	3.67	1.31	3.44	FAIL	N/A	N/A
PILE # 15	204.90	2,846.98	0.738	3.81	<1.43	2.17	<1.43	1.24	<1.43	0.386	<1.43	PASS	N/A	N/A
PILE # 16	194.35	3,041.33	1.04	6.55	0.929	1.89	<0.708	1.26	1.03	0.376	1.06	PASS	N/A	N/A
PILE # 17	202.18	3,243.51	0.44	1.70	<0.729	0.819	<0.729	0.674	<0.729	0.209	<0.729	PASS	N/A	N/A
PILE # 18	129.03	3,372.54	0.148	6.56	0.807	1.6	0.76	1.18	0.91	0.364	0.938	PASS	N/A	N/A

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Table 4 (Cont'd)
Summary Reusits of Thermally Treated PCB/cPAH Soil
Low Temperature Thermal Desorber
UOP - Areas 1, 1A, and 5
Remedial Action Report

	Treated Material		Revised Treatment Goals		Reporting Purposes Only							Result	Retreat Material	
	TONS	TOTAL TONS	TOTAL PCBs	TOTAL cPAHs	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h,)anthracene	Indeno(1,2,3-cd)pyrene	PASS or FAIL	TONS	TOTAL TONS
	-	-	**10**	**20**	**4**	**4**	**4**	**0.66**	**20**	**0.66**	**4**			
Retreat #1			<0.109	0.39	<0.72	<0.72	<0.72	0.385	<0.72	<0.18	<0.72	PASS	137.00	137.00
PILE # 19	209.80	3,582.34	0.156	9.78	1.22	1.84	1.23	1.87	1.07	0.673	1.88	PASS	N/A	N/A
PILE # 20	215.18	3,797.52	0.153	3.73	<0.73	1.37	<0.73	1.14	<0.73	0.30	0.929	PASS	N/A	N/A
Retreat # 2			<0.10	<0.66	<0.66	<0.66	<0.66	<0.17	<0.66	<0.17	<0.66	PASS	101.30	238.30
Retreat # 3			1.45	20.51	4.31	7.39	<3.56	4.31	4.5	<0.89	<3.56	FAILED	99.78	338.08
PILE # 21	197.14	3,994.66	0.352	19.00	2.26	4.81	1.96	3.72	2.37	1.00	2.88	PASS	N/A	N/A
Retreat # 4			2.36	**26.70**	5.05	<5.91	2.21	3.73	4.39	1.13	2.71	FAILED	101.02	439.10
PILE # 22	201.57	4,196.23	0.262	13.20	1.62	3.93	1.13	2.48	1.61	0.574	1.82	PASS	N/A	N/A
Retreat # 5			<0.10	1.09	<0.66	0.724	<0.66	0.36	<0.66	<0.16	<0.66	PASS	102.72	541.82
PILE # 23	198.96	4,395.19	0.252	10.00	1.28	2.85	0.985	2.02	1.29	0.407	1.22	PASS	N/A	N/A
PILE # 24	200.00	4,595.19	<0.11	3.31	<0.74	1.25	<0.74	0.979	<0.74	0.264	0.814	PASS	N/A	N/A
PILE # 25	202.70	4,797.89	0.338	15.90	2.06	4.67	1.48	3.24	1.95	0.671	1.83	PASS	N/A	N/A
Retreat # 6			0.136	2.37	<0.74	1.36	<0.74	0.809	<0.74	0.199	<0.74	PASS	93.25	635.07
PILE # 26	222.20	5,020.09	0.22	6.46	0.927	1.74	<0.72	1.31	1.00	0.40	1.08	PASS	N/A	N/A
PILE # 27	199.09	5,219.18	0.189	4.80	<0.71	1.53	<0.71	1.06	0.733	0.384	1.10	PASS	N/A	N/A
PILE # 28	201.27	5,420.45	0.242	**22.40**	2.7	6.06	2.02	4.16	3.08	1.13	3.23	FAILED	N/A	N/A
Retreat # 7			2.45	**33.60**	5.81	8.07	3.42	5.41	5.93	1.26	3.61	FAILED	99.28	734.35
PILE # 29S	141.59	5,562.04	0.802	**28.20**	3.97	7.39	2.62	5.1	4.25	1.29	3.53	FAILED	N/A	N/A
PILE # 30	200.95	5,762.99	0.453	18.80	2.47	4.96	1.6	3.36	2.74	0.984	2.65	PASS	N/A	N/A

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Table 4 (Cont'd)
Summary of Thermally Treated Soil
Low Temperature Thermal Desorber
UOP - Areas 1, 1A, and 5
Remedial Action Report

	Treated Material		Revised Treatment Goals		Reporting Purposes Only							Result	Retreat Material	
	TONS	TOTAL TONS	TOTAL PCBs	TOTAL cPAHs	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h,)anthracene	Indeno(1,2,3-cd)pyrene	PASS or FAIL	TONS	TOTAL TONS
	-	-	**10**	**20**	**4**	**4**	**4**	**0.66**	**20**	**0.66**	**4**			
PILE # 31	201.65	5,964.64	0.294	**30.40**	3.92	9.55	<3.74	5.95	5.08	1.52	4.38	FAILED	N/A	N/A
Retreat # 8			7.52	**45.90**	8.49	11.9	4.86	6.67	8.68	1.52	3.82	FAILED	112.60	846.95
PILE # 32	197.55	6,162.19	0.525	13.43	1.87	3.97	1.14	2.54	2.01	0.45	1.45	PASS	N/A	N/A
PILE # 33	191.42	6,353.61	0.26	6.18	0.97	1.78	<0.75	1.32	1.06	0.28	0.77	PASS	N/A	N/A
PILE # 34	201.35	6,554.96	0.278	1.30	<0.75	0.79	<0.75	0.51	<0.75	<0.19	<0.75	PASS	N/A	N/A
Retreat # 9			1.46	10.70	1.55	3.39	1.01	1.46	2.1	0.29	0.94	PASS	101.87	948.82
PILE # 35	200.40	6,755.36	0.179	4.50	<0.74	1.49	<0.74	1.1	0.8	0.27	0.85	PASS	N/A	N/A
PILE # 36	200.16	6,955.52	0.397	11.99	1.65	2.8	1.46	2.26	1.84	0.48	1.49	PASS	N/A	N/A
PILE # 37	199.89	7,155.41	0.14	3.43	<0.74	1.3	<0.74	0.99	<0.74	0.3	0.84	PASS	N/A	N/A
Retreat # 10			0.147	9.54	1.11	2.56	0.98	1.72	1.29	0.5	1.37	PASS	128.50	1,077.32
Pile # 38	203.07	7,358.48	0.479	12.90	1.81	3.41	1.14	2.18	1.93	0.66	1.76	PASS	N/A	N/A
Retreat # 11			1.15	**21.99**	4.98	7.33	<3.67	4.27	5.41	<0.92	<3.67	FAILED	202.23	1,279.55
Retreat # 12			1.28	10.20	1.6	2.43	1.22	1.65	1.71	0.49	1.13	PASS	108.54	1,388.09
PILE # 39S	149.22	7,507.70	0.301	3.79	<1.43	2.14	<1.43	1.17	<1.43	0.48	<1.43	PASS	N/A	N/A
Retreat # 13			2.56	**35.56**	6.35	8.2	4.85	4.78	6.82	1.23	3.33	FAILED	98.75	1,486.84
Retreat # 14			1.92	**35.68**	5.77	8.02	5.91	4.95	6.52	1.25	3.26	FAILED	100.00	1,586.84
Retreat # 15			0.825	**29.84**	4.26	9.14	3.76	4.17	5.1	0.96	2.45	FAILED	139.82	1,726.66
PILE # 40	202.00	7,709.70	<0.109	7.61	0.78	1.92	1.26	1.38	1.09	0.27	0.91	PASS	N/A	N/A
PILE # 41	199.67	7,909.37	0.236	4.07	<1.65	2.27	<1.65	1.8	<1.65	<0.41	<1.65	PASS	N/A	N/A

Table 4 (Cont'd)
Summary of Thermally Treated Soil
Low Temperature Thermal Desorber
UOP - Areas 1, 1A, and 5
Remedial Action Report

	Treated Material		Revised Treatment Goals		Reporting Purposes Only							Result	Retreat Material	
	TONS	TOTAL TONS	TOTAL PCBs	TOTAL cPAHs	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(K)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h,)anthracene	Indeno(1,2,3-cd)pyrene	PASS or FAIL	TONS	TOTAL TONS
	-	-	**10**	**20**	**4**	**4**	**4**	**0.66**	**20**	**0.66**	**4**			
Retreat # 16			1.41	**26.95**	4.58	7.01	3.9	3.82	4.58	0.78	2.28	FAILED	135.41	1,862.07
PILE # 42	209.66	8119.03	0.295	14.40	1.61	3.54	2.16	2.69	1.51	0.72	2.17	PASS	N/A	N/A
Retreat # 17			0.561	**22.21**	3.13	6.33	2.38	3.07	3.71	0.95	2.64	FAILED	98.45	1,960.52
Retreat # 18			0.4	11.64	1.68	3.99	<1.45	1.77	2.22	0.52	1.46	PASS	100.05	2,060.57
Retreat # 19			0.347	15.59	1.86	4.25	2.32	2.58	2.38	0.6	1.6	PASS	143.61	2,204.18
Retreat # 20			0.193	9.47	1.24	2.8	0.93	1.19	1.75	0.43	1.12	PASS	80.85	2,285.03
Retreat # 21			0.33	11.44	1.58	3.13	1.19	1.91	2.03	0.46	1.14	PASS	88.67	2,373.70
PILE # 43	100.87	8,219.90	<0.109	9.65	1.00	2.68	1.16	1.57	1.10	0.577	1.57	PASS	N/A	N/A

Total Tons treated	8,219.90
Total Tons failed	-1,834.83
Total Tons retreated	2,373.70
Total tons retreat failed	-1,187.34
Retreat tonnage differential	648.47
Total Tons confirmed Approval	**8,219.90**

Notes:
All concentrations are in mg/kg.
Retreat Material = Soil that was unsuccessfully treated by the LTTD and resent through the LTTD for retreatment.
Bold concentrations indicate exceedance of thermal treatment goals.
N/A - Not Applicable

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TABLE 5
DISPOSITION OF OFF-SITE WASTE
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

DATE	MANIFEST #	WASTE STREAM	SOURCE AREA	WASTE NO.	QUANTITY	TOTAL QUANTITY	WT. UNIT	TRANSPORTER	DESIGNATED FACILITY	TREATMENT
12/08/98	NYB8963037	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	45560.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8962335	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	53920.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8962254	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	65760.00	lbs.	ETGI	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8963253	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	58420.00	lbs.	ETGI	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8963262	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	51780.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8963271	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	46520.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8962344	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	67160.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8962389	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	51420.00	lbs.	ETGI	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8962245	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	59200.00	lbs.	ETGI	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8963244	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	62180.00	lbs.	ETGI	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8963235	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	58120.00	lbs.	ETGI	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8963298	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	48080.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8963307	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	44780.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8963289	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	50180.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8962263	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	55460.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8962326	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	43860.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/08/98	NYB8963316	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	51940.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8963325	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	69940.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8963343	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	54480.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8963334	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	49140.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962416	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	63580.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8963361	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	51640.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962425	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	51620.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8963415	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	45420.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962488	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	48820.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8963379	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	53020.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962506	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	52620.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962452	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	48540.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962461	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	53260.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8963352	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	52280.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962497	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	52400.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962398	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	45620.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962407	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	53240.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962659	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	49980.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962668	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	48640.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962272	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	50140.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962713	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	42080.00	lbs.	Gary W. Gray Trucking, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962722	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	45060.00	lbs.	Gary W. Gray Trucking, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962704	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	42660.00	lbs.	Gary W. Gray Trucking, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962677	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	50420.00	lbs.	Page E.T.C. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962524	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	53220.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962632	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	45900.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962695	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	52400.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962731	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	51440.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/09/98	NYB8962371	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	45760.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/14/98	NYB9068409	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	53140.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/14/98	NYB9068391	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	46440.00	lbs.	U.S. Bulk Transport, Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/15/98	NYB9068688	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	62980.00	lbs.	Price Trucking Corp.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/15/98	NYB9068679	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	53420.00	lbs.	Price Trucking Corp.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/22/98	NYB9068652	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	47780.00	lbs.	Dart Trucking Co. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/22/98	NYB9068643	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	45380.00	lbs.	Dart Trucking Co. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/22/98	NYB9068661	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	47700.00	lbs.	Dart Trucking Co. Inc.	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/23/98	NYB9068625	RQ, Polychlorinated Biphenyl, 9 UN2315, III	"	B007	1 Dump Trailer	48720.00	lbs.	Horwith Trucks Trucks	CWM Chemical Services, L.L.C., Model City, NY	Disposal
12/7/98	64603	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.64	tons	Horwith Trucks Trucks	G.R.O.W.S., Morrisville, PA	Disposal
12/7/98	64604	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	31.47	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/7/98	64601	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.84	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/7/98	64602	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	28.12	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/7/98	64599	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	26.78	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal

TABLE 5
DISPOSITION OF OFF-SITE WASTE
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

DATE	MANIFEST #	WASTE STREAM	SOURCE AREA	WASTE NO.	QUANTITY	TOTAL QUANTITY	WT. UNIT	TRANSPORTER	DESIGNATED FACILITY	TREATMENT
12/15/98	64537	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.25	tons	Pignataro Transport	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64547	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	22.95	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64548	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.56	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64549	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	22.28	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64553	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.98	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64554	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.52	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64556	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.68	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64555	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.91	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64550	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.52	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64552	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.29	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64551	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.69	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64557	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.58	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64558	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	28.78	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64559	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	27.49	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64560	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	28.03	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64562	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	26.61	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64561	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	29.11	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64563	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.16	tons	Pignataro Transport	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64564	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	21.8	tons	D.J.M. Inc.	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64577	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.44	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64571	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	20.67	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64569	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	28.8	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64570	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.87	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64573	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	27.22	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64572	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	22.13	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64568	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.43	tons	Horwith Trucks Trucks	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64574	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	26.01	tons	Horwith Trucks Trucks	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64575	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.75	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64565	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.36	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64566	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.04	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64567	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.43	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64583	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	20.08	tons	Horwith Trucks Trucks	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64582	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	26.24	tons	Horwith Trucks Trucks	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64576	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.03	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64578	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	21.28	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64579	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.22	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64580	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.35	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64581	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	28.31	tons	Eagans	G.R.O.W.S., Morrisville, PA	Disposal
12/15/98	64679	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	27.96	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64585	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	28.86	tons	D.J.M. Inc.	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64446	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.79	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64447	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	21.38	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64448	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	22.39	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64449	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	22.88	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64453	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	22.78	tons	Horwith Trucks Trucks	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64455	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.29	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64450	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.97	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64445	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	21.39	tons	Horwith Trucks Trucks	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64454	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	22.5	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64452	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.05	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64451	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.39	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64457	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	20.76	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64458	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.97	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64481	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.81	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64459	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	28.27	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64456	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	21.65	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64460	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	26.82	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64484	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	27.77	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal

TABLE 5
DISPOSITION OF OFF-SITE WASTE
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

DATE	MANIFEST #	WASTE STREAM	SOURCE AREA	WASTE NO.	QUANTITY	TOTAL QUANTITY	WT. UNIT	TRANSPORTER	DESIGNATED FACILITY	TREATMENT
12/16/98	64463	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.87	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64462	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.9	tons	D.J.M. Inc.	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64467	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.64	tons	Eagans	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64466	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.04	tons	Horwith Trucks Trucks	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64465	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	27.34	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64468	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	27.89	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64469	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	17.84	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64584	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	26.95	tons	Pignataro Transport	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64471	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.03	tons	Horwith Trucks Trucks	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64475	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	25.79	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64476	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	16.28	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64478	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.13	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64474	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	22.5	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64470	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.7	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64472	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.48	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64473	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	24.63	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64481	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	21.61	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64482	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.05	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64479	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	29.04	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64480	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	21.73	tons	ETGI	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64483	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	18.54	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64485	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	21.89	tons	Wills Trucking	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64484	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	22.28	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
12/16/98	64477	Non-hazardous PCB soil	"	BY 1549	1 Dump Trailer	23.34	tons	Waste Mgmt of PA	G.R.O.W.S., Morrisville, PA	Disposal
3/16/98	NJA2783534	Benzoyl Chloride 8, UN1736, II	Excavated Drum from Area 5	D002	1 Drum	400	kg.	Advanced Env. Tech. Svcs.	A.E.T.S., Flanders, NJ	Disposal
3/16/98	NJA2783534	Benzoyl Chloride 8, UN1736, II	"	D002	1 Drum	40	kg.	Advanced Env. Tech. Svcs.	A.E.T.S., Flanders, NJ	Disposal
11/17/97	NYB8831727	RQ, PCB mixture, 9, UN2315, III	Residual Carbon from Temporary WTP	B007	1 Dump Trailer	4100	kg.	Price Trucking Corp.	CWM Chemical Svcs., Model City, NY	Disposal
11/17/97	NYB8831754	RQ, PCB mixture, 9, UN2315, III	Clean-sorb (Clay) Residual from Temporary WTP	B007	1 Dump Trailer	700	kg.	Price Trucking Corp.	CWM Chemical Svcs., Model City, NY	Disposal
11/17/97	NYB8831718	RQ, PCB mixture, 9, UN2315, III	sidual Carbon impregnated with KI_3 from LTTD Operati	B007	1 Dump Trailer	1500	kg.	Price Trucking Corp.	CWM Chemical Svcs., Model City, NY	Disposal
11/14/97	NYB8830971	RQ, PCB mixture, 9, UN2315, III	Residual Carbon from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Page ETC.	CWM Chemical Svcs., Model City, NY	Disposal
11/14/97	NYB8830881	RQ, PCB mixture, 9, UN2315, III	Filter Cake Residuals from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Page ETC.	CWM Chemical Svcs., Model City, NY	Disposal
11/14/97	NYB8830899	RQ, PCB mixture, 9, UN2315, III	Filter Cake Residuals from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Page ETC.	CWM Chemical Svcs., Model City, NY	Disposal
11/14/97	NYB8830908	RQ, PCB mixture, 9, UN2315, III	Filter Cake Residuals from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Horwith Trucks	CWM Chemical Svcs., Model City, NY	Disposal
11/14/97	NYB8830917	RQ, PCB mixture, 9, UN2315, III	Filter Cake Residuals from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Horwith Trucks	CWM Chemical Svcs., Model City, NY	Disposal
11/14/97	NYB8830926	RQ, PCB mixture, 9, UN2315, III	Filter Cake Residuals from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Price Trucking Corp.	CWM Chemical Svcs., Model City, NY	Disposal
11/17/97	NYB8830935	RQ, PCB mixture, 9, UN2315, III	Filter Cake Residuals from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Horwith Trucks	CWM Chemical Svcs., Model City, NY	Disposal
11/17/97	NYB8830944	RQ, PCB mixture, 9, UN2315, III	Filter Cake Residuals from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Horwith Trucks	CWM Chemical Svcs., Model City, NY	Disposal
11/14/97	NYB8830953	RQ, PCB mixture, 9, UN2315, III	Filter Cake Residuals from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Horwith Trucks	CWM Chemical Svcs., Model City, NY	Disposal
11/14/97	NYB8830962	RQ, PCB mixture, 9, UN2315, III	Filter Cake Residuals from LTTD Operations	B007	1 Dump Trailer	20000	kg.	Price Trucking Corp.	CWM Chemical Svcs., Model City, NY	Disposal
11/17/97	CWM0003559	RQ, Haz Waste, Solid, N.O.S, 9, NA3077,III (D018 & PC	Residual Carbon from LTTD Operations	D018	Rolloff	7336	kg.	Freehold Cartage, Inc	Chemical Wast Mgt., Port Authur, TX	Disposal
11/24/97	CWM0003560	RQ, Haz Waste, Solid, N.O.S, 9, NA3077,III (D018 & PC	Residual Carbon from LTTD Operations	D018	Rolloff	7427	kg.	Freehold Cartage, Inc	Chemical Wast Mgt., Port Authur, TX	Disposal
10/14/96	NYB7195689	Haz Waste Solid N.O.S., Benzene Vinyl Chloride 9, NA3	Drum Carcasses from Drum Excavation in Area 1	D018	Rolloff	20	yd	Horwith Trucks	CWM Chemical Svcs., Model City, NY	Disposal
10/14/96	NYB7195698	Haz Waste Solid N.O.S., Benzene Vinyl Chloride 9, NA3	Drum Carcasses from Drum Excavation in Area 1	D018	Rolloff	25	yd	Horwith Trucks	CWM Chemical Svcs., Model City, NY	Disposal
10/17/96	NYB7195707	Haz Waste Solid N.O.S., Benzene Vinyl Chloride 9, NA3	Drum Carcasses from Drum Excavation in Area 1	D018	Rolloff	30	yd	Horwith Trucks Trucks	CWM Chemical Svcs., Model City, NY	Disposal

TABLE A-1

SUBAREA G

IN-SITU SOIL SAMPLE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ISG-01A	ISG-02A	ISG-03A	ISG-04A	ISG-05A	ISG-06A	ISG-10A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6063-5 (cPAHs) D96-6495-2 (PCBs)	D96-6063-6 (cPAHs) D96-6495-3 (PCBs)	D96-6063-7 (cPAHs) D96-6495-4 (PCBs)	D96-6063-8 (cPAHs) D96-6495-5 (PCBs)	D96-6224-1 (cPAHs,Pb) D96-6496-1 (PCBs)	D96-6063-9 (cPAHs) D96-6476-2 (PCBs)	D96-6224-5 (VOCs, cPAHs) D96-6496-5 (PCBs)	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	0-2, 1.5-2(VOCs)	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/5/96	6/5/96	6/5/96	6/5/96	6/10/96	6/10/96	6/10/96	
Compound (mg/kg)								
VOLATILES								
1,1,2,2 - tetrachloroethane	NA	NA	NA	NA	NA	NA	<0.006	21
Total VOCs	NA	NA	NA	NA	NA	NA	<0.112	1000
cPAHs								
Benzo(a)anthracene	<1.78	<0.700	<0.747	0.911	<0.684	<0.704	<0.738	4
Benzo(b)fluoranthene	<1.78	<0.700	<0.747	1.33	<0.684	<0.704	<0.738	4
Benzo(k)fluoranthene	<1.78	<0.700	<0.747	<0.733	<0.684	<0.704	<0.738	4
Benzo(a)pyrene	0.449	<0.175	<0.187	0.583	0.184	<0.176	<0.184	0.66
Chrysene	<1.78	<0.700	<0.747	0.945	<0.684	<0.704	<0.738	40
Dibenz(a,h)anthracene	<0.446	<0.175	<0.187	<0.183	<0.171	<0.176	<0.184	0.66
Indeno(1,2,3-cd)pyrene	<1.78	<0.700	<0.747	<0.733	<0.684	<0.704	<0.738	4
Total cPAHs	0.449	<0.700	<0.747	3.77	0.184	0.704	<0.738	29
Total PCBs	2.95/0.97	1.16/0.47	<0.113/ND	1.98/0.43	2.95/0.97	3.84/4.0	<0.112/2.5	2
Total Lead	NA	NA	NA	NA	70.9	NA	NA	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

ND - Not Detected

EPA Method 8270 - carcinogenic Polycyclic Hydrocarbons (cPAHs)

EPA Method 7421 - Lead

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Method 4020 - PCBs onsite

EPA Method 8240 - Volatile Organic Compounds (VOCs)

Total PCBs (offsite/onsite)

Shaded data indicates concentration exceeds remediation goal

TABLE A-1 (CONT'D)

SUBAREA G

IN-SITU SOIL SAMPLE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ISG-07A	ISG-08A	ISG-09A	ISG-11A	ISG-12A	ISG-13A	ISG-14A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6224-2 (cPAHs, Pb) D96-6496-2 (PCBs)	D96-6224-3 (cPAHs, Pb) D96-6496-3 (PCBs)	D96-6224-4 (cPAHs) D96-6496-4 (PCBs)	D96-6224-6 (cPAHs) D96-6496-6 (PCBs)	D96-6224-7 (cPAHs) D96-6496-7 (PCBs)	D96-6224-8 (cPAHs) D96-6496-8 (PCBs)	D96-6224-9 (cPAHs) (PCBs)	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<1.46	<0.729	<0.728	<0.771	<1.70	<0.733	<0.772	4
Benzo(b)fluoranthene	<1.46	<0.729	<0.728	0.883	<1.70	<0.733	<0.772	4
Benzo(k)fluoranthene	<1.46	<0.729	<0.728	<0.771	<1.70	<0.733	<0.772	4
Benzo(a)pyrene	<0.365	<0.729	<0.182	0.501	<0.425	<0.182	<0.193	0.66
Chrysene	<1.46	<0.729	<0.728	<0.771	<1.70	<0.733	<0.772	40
Dibenz(a,h)anthracene	<0.365	<0.729	<0.182	<0.193	<0.425	<0.782	<0.193	0.66
Indeno(1,2,3-cd)pyrene	<1.46	<0.729	<0.728	<0.771	<1.70	<0.733	<0.772	4
Total cPAHs	<1.46	<0.729	<0.728	1.39	<1.70	<0.733	<0.772	29
Total PCBs	2.44/11.7	3.01/15.8	0.430/7.9	9.24/21.4	25.0/25.2	5.63/19.8	11.3/23.6	2
Total Lead	71.4	22.7	NA	NA	NA	NA	NA	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Hydrocarbons (cPAHs)

Method 4020 - PCBs onsite

EPA Method 7421 - Lead

Total PCBs (offsite/onsite)

Shaded data indicates concentration exceeds remediation goal

TABLE A-1 (CONT'D)

SUBAREA G

IN-SITU SOIL SAMPLE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ISG-15A	ISG-16A	ISG-17A	ISG-18A	ISG-19A	ISG-20A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6224-10 (cPAHs) (PCBs)	D96-6224-12 (cPAHs) D96-6496-9 (PCBs)	D96-6224-13 (cPAHs) D96-6496-10 (PCBs)	D96-6224-14 (cPAHs) D96-6496-11 (PCBs)	D96-6224-15 (cPAHs) D96-6496-12 (PCBs)	D96-6224-16 (cPAHs) D96-6496-13 (PCBs)	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	<0.718	<0.772	<0.702	<0.755	3.93(J)	<0.741	4
Benzo(b)fluoranthene	<0.718	<0.772	1.07	<0.755	1.13(J)	<0.741	4
Benzo(k)fluoranthene	<0.718	<0.772	<0.702	<0.755	1.91(J)	<0.741	4
Benzo(a)pyrene	<0.180	<0.193	0.729	<0.189	4.51(J)	<0.185	0.66
Chrysene	<0.718	<0.772	<0.702	<0.755	3.87(J)	<0.741	40
Dibenz(a,h)anthracene	<0.180	<0.193	0.189	<0.189	1.13(J)	<0.185	0.66
Indeno(1,2,3-cd)pyrene	<0.718	<0.772	<0.702	<0.755	2.99(J)	<0.741	4
Total cPAHs	<0.718	<0.772	1.99	<0.755	22.5(J)	<0.741	29
Total PCBs	1.26/6.5	4.09/15.0	5.26/19.4	1.99/11.7	0.775/17.9	24.0/1.3	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

Method 4020 - PCBs onsite

EPA Method 8270 - carcinogenic Polycyclic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Total PCBs (offsite/onsite)

(J) - Estimated concentration

Shaded data indicates concentration exceeds remediation goal

TABLE A-1(CONT'D)

SUBAREA H

IN-SITU SOIL SAMPLE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ISH-01A	ISH-01AD	ISH-02A	ISH-03A	ISH-04A	ISH-05A	ISH-06A	ISH-07A	ISH-08A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6224-17 (cPAHs, Pb) D96-6496-14 (PCBs)	D96-6224-18 (cPAHs, Pb)	D96-6224-19 (cPAHs, Pb) D96-6496-15 (PCBs)	D96-6224-20 (cPAHs, Pb) D96-6496-16 (PCBs)	D96-6224-21 (cPAHs,PCBs, Pb)	D96-6224-22 (cPAHs,PCBs, Pb)	D96-6224-23 (cPAHs, Pb) D96-6496-17 (PCBs)	D96-6224-24 (cPAHs, Pb) D96-6496-18 (PCBs)	D96-6224-25 (cPAHs, Pb) (PCBs)	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	6/10/96	
Compounds (mg/kg) cPAHs										
Benzo(a)anthracene	2.39	<1.64	<1.66	1.92(J)	<0.847	<1.57	1.13	8.24(J)	<0.706	4
Benzo(b)fluoranthene	4.13	2.5	<1.66	2.92(J)	<0.847(J)	<1.57	1.32	7.76(J)	<0.706	4
Benzo(k)fluoranthene	1.46	<1.64	<1.66	1.41(J)	<0.847(J)	<1.57	1.17	6.78(J)	<0.706	4
Benzo(a)pyrene	2.66	1.7	0.455	2.21(J)	0.804(J)	1.19	1.22	8.61	<0.176	0.66
Chrysene	2.54	1.7	<1.66	2.02(J)	<0.847(J)	<1.57	1.27	7.73	<0.706	40
Dibenz(a,h)anthracene	0.472	<0.410	<0.416	0.714(J)	0.325(J)	<0.392	0.404	2.70(J)	<0.176	0.66
Indeno(1,2,3-cd)pyrene	<1.67	<1.64	<1.66	2.03(J)	<0.847	<1.57	0.897	5.52(J)	<0.706	4
Total cPAHs	13.6	5.91	0.455	13.2(J)	1.13(J)	1.19	7.4	47.3(J)	<0.706	29
Total PCBs	1.09/2.0	NA	0.403/2.4	2.98/7.1	0.501/1.7	5.32/15.3	4.19/10.3	49.9/22.0	0.374/0.46	2
Total Lead	131	152	146	138	162	90	161	937	26.5	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Hydrocarbons (cPAHs)

EPA Method 7421 - Lead

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Method 4020 - PCBs onsite

Sample ISH-01AD is a duplicate sample of ISH-01

Total PCBs (offsite/onsite)

(J) - Estimated concentration

Shaded data indicates concentration exceeds remediation goal

TABLE A-1 (CONT'D)

SUBAREA I

IN-SITU SOIL SAMPLE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ISI-01A	ISI-02A	ISI-03A	ISI-04A	ISI-05A	ISI-06A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6820-2 (cPAHs,PCBs)	D96-6820-11 (cPAHs,PCBs)	D96-6820-8 (cPAHs,PCBs)	D96-6820-1 (cPAHs,PCBs)	D96-6820-10 (cPAHs,PCBs)	D96-6820-9 (cPAHs,PCBs)	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/24/96	6/24/96	6/24/96	6/24/96	6/24/96	6/24/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	9.7	1.03	1.25	3.26	5.48	<0.792	4
Benzo(b)fluoranthene	9.23	1.53	1.79	5.26	6.11	<0.792	4
Benzo(k)fluoranthene	6.9	1.36	1.59	2.84	5.83	<0.792	4
Benzo(a)pyrene	10.2	1.24	1.42	4.27	5.29	<0.198	0.66
Chrysene	8.75	1.32	1.35	3.52	5.38	<0.792	40
Dibenz(a,h)anthracene	3.3	0.656	0.578	0.854	1.93	<0.198	0.66
Indeno(1,2,3-cd)pyrene	7.13	1.18	0.909	3.25	3.02	<0.792	4
Total cPAHs	55.2	8.34	8.89	23.2	33.1	<0.792	29
Total PCBs	<0.114/12.1	11.9/2.62	8.55/0.62	2.24/1.58	<0.115/0.06	4.62/0.24	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Hydrocarbons (cPAHs)

EPA Method 7421 - Lead

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 4020 - PCBs onsite

Total PCBs (offsite/onsite)

Shaded data indicates concentration exceeds remediation goal

TABLE A-1 (CONT'D)
SUBAREA L
IN-SITU SOIL SAMPLE ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ISL-01A	ISL-02A	ISL-02AD	ISL-03A	ISL-04A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6820-4 (cPAHs,PCBs)	D96-6820-6 (cPAHs,PCBs)	D96-6820-7 (cPAHs,PCBs)	D96-6820-5 (cPAHs,PCBs)	D96-6820-3 (cPAHs,PCBs)	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/24/96	6/24/96	6/24/96	6/24/96	6/24/96	
Compound (mg/kg) cPAHs						
Benzo(a)anthracene	3.39	5.59	3.24	1.05	<1.57	4
Benzo(b)fluoranthene	3.05	4.77	4.00	1.29	<1.57	4
Benzo(k)fluoranthene	2.47	6.43	2.57	1.30	<1.57	4
Benzo(a)pyrene	3.32	5.94	3.4	1.30	0.892	0.66
Chrysene	3.27	5.30	3.13	1.09	<1.57	40
Dibenz(a,h)anthracene	1.07	1.14	1.17	0.471	<0.392	0.66
Indeno(1,2,3-cd)pyrene	2.08	3.54	2.27	0.83	<1.57	4
Total cPAHs	18.6	32.7	19.9	7.34	0.692	29
Total PCBs	1.96/2.32	3.31/4.78	2.82	3.28/1.86	0.963/0.8	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Method 4020 - PCBs onsite

Shaded data indicates concentration exceeds remediation goal

Sample ISL-02AD is a duplicate sample of ISL-02

Total PCBs (offsite/onsite)

TABLE A-1

IN-SITU SAMPLE ANALYTICAL RESULTS

TABLE 6
UOP UPLANDS - SITE REMEDIATION
ACTIVITY CHRONOLOGY
AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

ACTIVITY	DATE
ADMINISTRATIVE	
Plant Operations Ceased	1979
Plant Demolished	1980
ACO Issued. Administrative Hearing Held.	Jul-82
ACO Between UOP and NJDEP Issued In Response To Hearing	Jul-83
Listed on National Priorities List	Sep-83
Hydrogeologic Investigation Report Submitted To Partially Fulfill Requirements Of ACO	May-84
ACO Addendum Issued Requiring Phase II Investigation And Feasibility Study	Sep-84
Phase II Report Submitted To NJDEP	Jun-85
Second ACO Issued	May-86
General Workplan To Meet Requirements of ACO Submitted	May-86
NJDEP Final Comments On General Workplan Received	Aug-86
Final General Workplan Submitted To NJDEP	Sep-86
Remedial Investigation Report	May-87
Human Health Risk Assessment	May-87
Ecological Risk Assessment Workplan	Oct-88
Feasibility Study Workplan	May-87
Feasibility Study Report	Apr-90
IRM Workplan For Groundwater	Nov-90
IRM Design Investigation Plan	Dec-90
Preliminary Design Report For IRM	Sep-91
Seep/Sewer Network Investigation Report	Jan-91
Supplemental Investigation Report	Sep-92
Record of Decision	Oct-93
Wetlands Characterization Report	Mar-94
Remedial Action Workplan	May-95
Award Remediation Contract	Dec-95
REMEDIATION PHASE	
Mobilization For Remediation Activities	Apr-96
Establish Soil Erosion And Sediment Controls	Apr-96
Clearing and Grubbing	Apr-96
Abandon Monitoring Wells	Apr-96
Construct Site Access Road	Apr-96
Construct Temporary Water Treatment Plant	Apr-96
Start In-Situ Soil Sampling	May-96
Start Soil Excavation Activities	May-96
Backfill Excavations With Imported Fill	May-96
Post-Excavation Soil Sampling	May-96
Storm Sewer Remediation	Jun-96
Remediate North Drainage Ditch	Oct-96
Excavate Process Sewers	Sep-96
Install Groundwater Collection Trenches	Sep-96
Begin Pumping and Treating Groundwater	Oct-96
Start Thermal Treatment of PCBs	Nov-96
End Thermal Treatment of PCBs	Mar-97
End Treatment of Groundwater	Dec-98
Start VOC Soil Vapor Extraction Pilot Test	Jun-98
End VOC Soil Vapor Extraction Pilot Test	Jul-98
ROD Amendment Issued	Dec-98
Start Off-Site Disposal of PCB Soil	Dec-98
End Off-Site Disposal of PCB Soil	Jan-99
Completion of Excavation Activities	Dec-98
Start Cap Construction	Sep-98
End Cap Construction	Jun-99
Site Restoration	Jun-99

TABLE A-2

SIDEWALL POST-EXCAVATION SAMPLE RESULTS

TABLE A-2
SUBAREA D
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWD-03A-EX1	EWD-03B-EX1	EWD-03C-EX1	EWD-03D-EX1	EWD-04A-EX	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-12816-1	D97-12816-2	D97-12816-3	D97-12816-4	D97-12816-5	
Depth (feet)	7-7.5	7-7.5	7-7.5	7-7.5	7-7.5	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	10/22/97	10/22/97	10/22/97	10/22/97	10/22/97	
Compound (mg/kg) VOLATILES						
Chloromethane	<0.0080	<0.0011	<1.66	<3.03	<3.35	N/A
Bromomethane	<0.0064	<0.0009	<1.33	<2.42	<2.67	N/A
Vinyl Chloride	<0.0102	<0.0014	<2.13	<3.89	<4.29	N/A
Chloroethane	<0.0072	<0.0010	<1.51	<2.75	<3.03	N/A
Methylene chloride	<0.0052	<0.0007	<1.00	<1.99	<2.20	N/A
Acetone	0.833	<0.0303	<45.8	<83.4	<92.0	N/A
Carbon disulfide	<0.0055	<0.0008	<1.14	<2.09	<2.30	N/A
1,1-Dichloroethene	<0.0056	<0.0008	<1.17	<2.13	<2.35	N/A
1,1-Dichloroethane	<0.0052	<0.0007	<1.09	<1.99	<2.20	N/A
cis-1,2-Dichloroethene	<0.0060	<0.0008	<1.25	11.1	<2.51	N/A
trans-1,2-Dichloroethene	<0.0062	<0.0009	<1.30	<2.37	<2.61	N/A
Chloroform	<0.0062	<0.0008	<1.14	<2.09	<2.30	N/A
1,2-Dichloroethane	<0.0057	<0.0008	<1.20	<2.18	<2.40	N/A
2-Butanone	<0.0193	<0.0027	<4.03	<7.35	<8.10	N/A
1,1,1-Trichloroethane	<0.0054	<0.0007	<1.12	<2.04	<2.25	N/A
Carbon tetrachloride	<0.0057	<0.0008	<1.20	<2.18	<2.40	N/A
Bromodichloromethane	<0.0046	<0.0006	<0.96	<1.75	<1.93	N/A
1,2-Dichloropropane	<0.0080	<0.0011	<1.66	<3.03	<3.35	N/A
cis-1,3-Dichloropropene	<0.0071	<0.0010	<1.48	<2.70	<2.98	N/A
Trichloroethene	<0.0065	<0.0009	<1.35	<2.46	<2.72	N/A
Chlorodibromomethane	<0.0047	<0.0007	<0.99	<1.80	<1.99	N/A
1,1,2-Trichloroethane	<0.0040	<0.0006	<0.83	<1.52	<1.67	N/A
Benzene	0.0799	<0.0008	28.6	52.6	46.6	N/A
trans-1,3-Dichloropropene	<0.0024	<0.0003	<0.49	<0.90	<0.99	N/A
Bromoform	<0.0037	<0.0005	<0.78	<1.42	<1.57	N/A
4-Methyl-2-pentanone	<0.0187	<0.0026	<3.90	<7.11	<7.84	N/A
2-Hexanone	<0.0100	<0.0014	<2.08	<3.79	<4.18	N/A
Tetrachloroethene	<0.0159	<0.0022	<3.33	<6.07	<6.69	N/A
Toluene	0.087	<0.0006	52.8	254	110	N/A
1,1,2,2-Tetrachloroethane	<0.0019	<0.0003	<0.39	<0.71	<0.78	21
Chlorobenzene	28.4	<0.0006	<0.91	<1.66	<1.83	N/A
Ethylbenzene	0.148	<0.0010	<1.59	<2.89	<3.19	N/A
Styrene	<0.0046	<0.0006	<0.96	<1.75	<1.93	N/A
o-Xylene	0.063	<0.0006	<0.86	<1.56	<1.73	N/A
m,p-Xylene	0.195	<0.0009	<1.30	<2.37	<2.61	N/A
Total VOCs	29.81	<0.0303	81.4	317.7	156.6	1000

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 8240 - Volatile Organic Compounds (VOCs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA D
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP UPLANDS - EAST RUTHERFORD, NJ
REMEDIAL ACTION REPORT

Field Sample No.	EWD-03E-EX1	EWD-03D-EX1	EWD-03C-EX1	EWD-03B-EX1	EWD-03A-EX1	EWD-03B-E	EWD-03A-E
Laboratory Sample No.	D97-12816-7	D97-12816-4	D97-12816-3	D97-12816-2	D97-12816-1	D96-12105-5	D96-12105-4
Depth (feet)	7-7.5	7-7.5	7-7.5	7-7.5	7-7.5	7-7.5	7-7.5
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date Collected	10/22/97	10/22/97	10/22/97	10/22/97	10/22/97	10/24/96	10/24/96
Compound (mg/kg) VOLATILES							
Chloromethane	<0.803	<3.03	<1.66	<0.0011	<0.0080	<1.38	<0.9
Bromomethane	<0.640	<2.42	<1.33	<0.0009	<0.0064	<1.38	<0.9
Vinyl Chloride	<1.03	<3.89	<2.13	<0.0014	<0.0102	<1.38	<0.9
Chloroethane	<0.728	<2.75	<1.51	<0.0010	<0.0072	<1.38	<0.9
Methylene chloride	<0.527	<1.99	<1.09	<0.0007	<0.0052	<0.69	<0.45
Acetone	<22.1	<83.4	<45.8	<0.0303	0.833	<13.8	<9.03
Carbon disulfide	<0.552	<2.09	<1.14	<0.0008	<0.0055	<0.69	<0.45
1,1-Dichloroethene	<0.564	<2.13	<1.17	<0.0008	<0.0056	<0.69	<0.45
1,1-Dichloroethane	<0.527	<1.99	<1.09	<0.0007	<0.0052	<0.69	<0.45
cis-1,2-Dichloroethene	<0.602	11.1	<1.25	<0.0008	<0.0060	<0.69	<0.45
trans-1,2-Dichloroethene	<0.627	<2.37	<1.30	<0.0009	<0.0062	<0.69	<0.45
Chloroform	<0.552	<2.09	<1.14	<0.0008	<0.0055	<0.69	<0.45
1,2-Dichloroethane	<0.577	<2.18	<1.20	<0.0008	<0.0057	<0.69	<0.45
2-Butanone	<1.94	<7.35	<4.03	<0.0027	<0.0193	<6.89	<4.51
1,1,1-Trichloroethane	<0.539	<2.04	<1.12	<0.0007	<0.0054	<0.69	<0.45
Carbon tetrachloride	<0.577	<2.18	<1.20	<0.0008	<0.0057	<0.69	<0.45
romodichloromethane	<0.464	<1.75	<0.96	<0.0006	<0.0046	<0.69	<0.45
-Dichloropropane	<0.803	<3.03	<1.66	<0.0011	<0.0080	<0.69	<0.45
cis-1,3-Dichloropropene	<0.715	<2.70	<1.48	<0.0010	<0.0071	<0.69	<0.45
Trichloroethene	<0.652	<2.46	<1.35	<0.0009	<0.0065	<0.69	<0.45
Chlorodibromomethane	<0.477	<1.80	<0.99	<0.0007	<0.0047	<0.69	<0.45
1,1,2-Trichloroethane	<0.401	<1.52	<0.83	<0.0006	<0.0040	<0.69	<0.45
Benzene	83.0	52.6	28.6	<0.0008	0.0799	1.39	<0.45
trans-1,3-Dichloropropene	<0.238	<0.90	<0.49	<0.0003	<0.0024	<0.69	<0.45
Bromoform	<0.376	<1.42	<0.78	<0.0005	<0.0037	<0.69	<0.45
4-Methyl-2-pentanone	<1.88	<7.11	<3.90	<0.0026	<0.0187	<6.89	<4.51
2-Hexanone	<1.00	<3.79	<2.08	<0.0014	<0.0100	<6.89	<4.51
Tetrachloroethene	<1.61	<6.07	<3.33	<0.0022	<0.0159	<0.69	<0.45
Toluene	53.4	254	52.8	<0.0006	0.087	<0.69	<0.45
1,1,2,2-Tetrachloroethane	<0.188	<0.71	<0.39	<0.0003	<0.0019	<0.69	<0.45
Chlorobenzene	<0.439	<1.66	<0.91	<0.0006	28.4	<0.69	<0.45
Ethylbenzene	<0.765	<2.89	<1.59	<0.0010	0.148	2.95	<0.45
Styrene	<0.464	<1.75	<0.96	<0.0006	<0.0046	<0.69	<0.45
o-Xylene	<0.414	<1.56	<0.86	<0.0006	0.063	<0.69	<0.45
m,p-Xylene	<0.627	<2.37	<1.30	<0.0009	0.195	<0.69	<0.45
Total VOCs	136.4	317.7	81.4	<0.0303	29.81	4.34	<9.03

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8240 - Volatile Organic Compounds (VOCs)

TABLE A-2 (CONT'D)
SUBAREA D
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWD-04B-EX	EWD-01B-EX	EWD-01C-EX	EWD-01D-EX	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-12816-6	D97-12875-1	D97-12875-2	D97-12875-3	
Depth (feet)	7-7.5	7-7.5	7-7.5	7-7.5	
Type	Soil	Soil	Soil	Soil	
Date Collected	10/22/97	10/23/97	10/23/97	10/23/97	
Compound (mg/kg) VOLATILES					
Chloromethane	<3.06	<0.029	<65 (D)	<2.69 (D)	N/A
Bromomethane	<2.44	<0.029	<65 (D)	<2.69 (D)	N/A
Vinyl Chloride	<3.92	<0.029	<65 (D)	<2.69 (D)	N/A
Chloroethane	<2.77	<0.029	<65 (D)	<2.69 (D)	N/A
Methylene chloride	<2.01	<0.015	<65 (D)	<1.35 (D)	N/A
Acetone	<84.1	<0.294	<646 (D)	<26.9 (D)	N/A
Carbon disulfide	<2.10	<0.015	<32 (D)	<1.35 (D)	N/A
1,1-Dichloroethene	<2.15	<0.015	<32 (D)	<1.35 (D)	N/A
1,1-Dichloroethane	<2.01	<0.015	<32 (D)	<1.35 (D)	N/A
cis-1,2-Dichloroethene	<2.29	<0.015	<32 (D)	<1.35 (D)	N/A
trans-1,2-Dichloroethene	<2.39	<0.015	<32 (D)	<1.35 (D)	N/A
Chloroform	<2.10	<0.015	<32 (D)	<1.35 (D)	N/A
1,2-Dichloroethane	<2.20	<0.015	<32 (D)	<1.35 (D)	N/A
2-Butanone	<7.41	<0.147	<323 D	<1.35 (D)	N/A
1,1,1-Trichloroethane	<2.06	<0.015	<32 (D)	<1.35 (D)	N/A
Carbon tetrachloride	<2.20	<0.015	<32 (D)	<1.35 (D)	N/A
Bromodichloromethane	<1.77	<0.015	<32 (D)	<1.35 (D)	N/A
1,2-Dichloropropane	<3.06	<0.015	<32 (D)	<1.35 (D)	N/A
cis-1,3-Dichloropropane	<2.72	<0.015	<32 (D)	<1.35 (D)	N/A
Trichloroethene	51.6	<0.015	<32 (D)	<1.35 (D)	N/A
Chlorodibromomethane	<1.82	<0.015	<32 (D)	<1.35 (D)	N/A
1,1,2-Trichloroethane	<1.53	<0.015	<32 (D)	<1.35 (D)	N/A
Benzene	64.5	<0.015	45 (D)	6.95 (D)	N/A
trans-1,3-Dichloropropene	<0.91	<0.015	<32 (D)	<1.35 (D)	N/A
Bromoform	<1.43	<0.015	<32 (D)	<1.35 (D)	N/A
4-Methyl-2-pentanone	<7.17	<0.147	<323 (D)	<13.5 (D)	N/A
2-Hexanone	<3.82	<0.147	<323 (D)	<13.5 (D)	N/A
Tetrachloroethene	6.98	<0.015	<32 (D)	<1.35 (D)	N/A
Toluene	89.9	<0.015	37 (D)	<1.35 (D)	N/A
1,1,2,2-Tetrachloroethane	<0.72	<0.015	<32 (D)	<1.35 (D)	21
Chlorobenzene	<1.67	<0.015	<32	<1.35 (D)	N/A
Ethylbenzene	<2.92	<0.015	<32 (D)	<1.35 (D)	N/A
Styrene	<1.77	<0.015	<32 (D)	<1.35 (D)	N/A
o-Xylene	<1.58	<0.015	<32 (D)	<1.35 (D)	N/A
m,p-Xylene	<2.39	<0.015	<32 (D)	<1.35 (D)	N/A
Total VOCs	212.98	<0.294	84 (D)	6.95	1000

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
D - Sample analyzed at a secondary dilution
EPA Method 8240 - Volatile Organic Compounds (VOCs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA D
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWD-04C-EX	EWD-02A-E	EWD-02B-A	EWD-02C-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-12924-1	D96-12105-1	D96-12105-2	D96-12105-3	
Depth (feet)	7-7.5	7-7.5	7-7.5	7-7.5	
Type	Soil	Soil	Soil	Soil	
Date Collected	10/24/97	10/24/97	10/24/97	10/24/97	
Compound (mg/kg) VOLATILES					
Chloromethane	<0.24 (D)	<0.16 (D)	<0.012	<0.011	N/A
Bromomethane	<0.24 (D)	<0.16 (D)	<0.012	<0.011	N/A
Vinyl Chloride	<0.24 (D)	<0.16 (D)	<0.012	<0.011	N/A
Chloroethane	<0.24 (D)	<0.16 (D)	<0.012	<0.011	N/A
Methylene chloride	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
Acetone	3.08 (D)	<1.58 (D)	<0.117	<0.109	N/A
Carbon disulfide	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
1,1-Dichloroethene	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
1,1-Dichloroethane	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
cis-1,2-Dichloroethene	<0.12 (D)	<0.08 (D)	0.018	<0.005	N/A
trans-1,2-Dichloroethene	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
Chloroform	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
1,2-Dichloroethane	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
2-Butanone	2.68 (D)	<0.79 (D)	<0.058	<0.054	N/A
1,1,1-Trichloroethane	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
Carbon tetrachloride	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
Bromodichloromethane	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
1,2-Dichloropropane	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
cis-1,3-Dichloropropane	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
Trichloroethene	<0.12	<0.08 (D)	<0.006	<0.005	N/A
Chlorodibromomethane	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
1,1,2-Trichloroethane	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
Benzene	<0.12 (D)	0.08 (D)	<0.006	<0.005	N/A
trans-1,3-Dichloropropene	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
Bromoform	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
4-Methyl-2-pentanone	<1.19 (D)	<0.79 (D)	<0.058	<0.054	N/A
2-Hexanone	<1.19 (D)	<0.79 (D)	<0.058	<0.054	N/A
Tetrachloroethene	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
Toluene	<0.12 (D)	<0.08 (D)	0.013	<0.005	N/A
1,1,2,2-Tetrachloroethane	<0.12 (D)	<0.08 (D)	<0.006	<0.005	21
Chlorobenzene	<0.12 (D)	1.15 (D)	0.039	<0.005	N/A
Ethylbenzene	<0.12 (D)	<0.08 (D)	0.007	<0.005	N/A
Styrene	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
o-Xylene	<0.12 (D)	<0.08 (D)	<0.006	<0.005	N/A
m,p-Xylene	<0.12 (D)	<0.08 (D)	0.007	<0.005	N/A
Total VOCs	5.77	1.23	0.084	<0.109	1000

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
D - Sample analyzed at a secondary dilution
EPA Method 8240 - Volatile Organic Compounds (VOCs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2(CONT'D)

SUBAREA E

SIDEWALL POST-EXCAVATION SAMPLE RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWE-01A-E	EWE-01B-E	EWE-01C-E	EWE-01D-E	EWE-02A-E	EWE-02B-E	EWE-02C-EX	EWE-02C-ED	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-13821-3	D96-13821-1	D96-13742-4	D96-13742-5	D96-13742-3	D96-13821-7	D96-14242-1	D96-14243-1	
Depth (feet)	7-7.5	7-7.5	7-7.5	7-7.5	7-7.5	7-7.5	7-7.5	7-7.5	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	12/04/96	12/04/96	12/03/96	12/03/96	12/03/96	12/04/96	12/11/96	12/11/96	
Compound (mg/kg) VOLATILES									
1,1,2,2-Tetrachloroethane	<0.54	<0.006	<0.068	<0.037	<0.014	<5.0	<0.18	<0.54	21
Total VOCs	24.0	0.173	44.2	31.8	3.99	<0.286	6.06	11.0	1000

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8240 - Volatile Organic Compounds (VOCs)

Sample EWE-02C-ED is a duplicate of sample EWE-02C-EX

TABLE A-2 (CONT;D)

SUBAREA E

SIDEWALL POST-EXCAVATION SAMPLE RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWE-02D-EX	EWE-02E-EX	EWE-04D-E	EWE-04E-E	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-14242-3	D96-14242-4	D96-13821-5	D96-13821-4	
Depth (feet)	7-7.5	7-7.5	7-7.5	7-7.5	
Type	Soil	Soil	Soil	Soil	
Date Collected	12/11/96	12/11/96	12/04/96	12/04/96	
Compound (mg/kg) VOLATILES					
1,1,2,2-Tetrachloroethane	<0.14	<0.11	<0.011	<0.30	21
Total VOCs	0.64	0.80	0.566	44.4	1000

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8240 - Volatile Organic Compounds (VOCs)

TABLE A-2 (CONT'D)

SUBAREA E

SIDEWALL POST-EXCAVATION SAMPLE RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWF-01A-A(#)	EWF-01B-A(#)	EWF-02A-A(#)	EWF-02B-AX(#)	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-13821-2	D96-13742-2	D96-13821-6	D96-14242-2	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	
Date Collected	12/04/96	12/03/96	12/04/96	12/11/96	
Compound (mg/kg) METALS					
Lead	323	143	284	28.0	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

(#) - Sample was collected in Area E, but was labeled as an Area F sample

EPA Method 7421 - Lead

TABLE A-2 (CONT'D)
SUBAREA E
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWE-04A-AX	EWE-04A-EX	EWE-04B-AX	EWE-04B-EX	EWE-04C-AX	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-12924-2	D97-12924-3	D97-12924-4	D97-12924-5	D97-12924-6	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	10/24/97	10/24/97	10/24/97	10/24/97	10/24/97	
Compound (mg/kg) VOLATILES						
Chloromethane	<12 (D)	<3.29 (D)	<1.29 (D)	<62 (D)	<12	N/A
Bromomethane	<12 (D)	<3.29 (D)	<1.29 (D)	<62 (D)	<12	N/A
Vinyl Chloride	<12 (D)	<3.29 (D)	<1.29 (D)	<62 (D)	<12	N/A
Chloroethane	<12 (D)	<3.29 (D)	<1.29 (D)	<62 (D)	<12	N/A
Methylene chloride	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
Acetone	<117 (D)	<3.29 (D)	<12.9 (D)	<622 (D)	<119	N/A
Carbon disulfide	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
1,1-Dichloroethene	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
1,1-Dichloroethane	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
cis-1,2-Dichloroethene	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
trans-1,2-Dichloroethene	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
Chloroform	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
1,2-Dichloroethane	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
2-Butanone	<58 (D)	<1.65 (D)	<6.43 (D)	<311 (D)	<59	N/A
1,1,1-Trichloroethane	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
Carbon tetrachloride	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
Bromodichloromethane	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
1,2-Dichloropropane	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
cis-1,3-Dichloropropane	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
Trichloroethene	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
Chlorodibromomethane	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
1,1,2-Trichloroethane	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
Benzene	<6 (D)	37.2 (D)	48.6 (D)	120 (D)	16	N/A
trans-1,3-Dichloropropene	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
Bromoform	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
4-Methyl-2-pentanone	<58 (D)	<16.5 (D)	<6.43 (D)	<311 (D)	<59	N/A
2-Hexanone	<58 (D)	<16.5 (D)	<6.43 (D)	<311 (D)	<59	N/A
Tetrachloroethene	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
Toluene	<6 (D)	<1.65 (D)	2.27 (D)	<31 (D)	22	N/A
1,1,2,2-Tetrachloroethane	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	21
Chlorobenzene	<6 (D)	<1.65 (D)	176 (D)	845 (D)	29	N/A
Ethylbenzene	<6 (D)	5.22 (D)	43.7 (D)	140 (D)	7	N/A
Styrene	<6 (D)	<1.65 (D)	<0.64 (D)	<31 (D)	<6	N/A
o-Xylene	<6 (D)	5.70 (D)	17.1 (D)	51 (D)	9	N/A
m,p-Xylene	<6 (D)	17.0 (D)	139 (D)	477 (D)	24	N/A
Total VOCs	<117	65.1	427	1633	107	1000

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
D - Sample analyzed at a secondary dilution
EPA Method 8240 - Volatile Organic Compounds (VOCs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA E
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWE-04C-EX	EWE-04C-EXD	EWE-04D-AX	EWE-04E-AX	EWE-01A-A	Remediation Goals (mg/kg)
Laboratory Sample No.	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Depth (feet)	7-7.5	7-7.5	7-7.5	7-7.5	7-7.5	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	10/24/97	10/24/97	10/29/97	10/29/97	10-29-97	
Compound (mg/kg) VOLATILES						
Chloromethane	<59 (D)	<0.060 (D)	<0.010	<0.050 (D)	<0.10 (D)	N/A
Bromomethane	<59 (D)	<0.060 (D)	<0.010	<0.050 (D)	<0.10 (D)	N/A
Vinyl Chloride	<59 (D)	<0.060 (D)	<0.010	<0.050 (D)	<0.10 (D)	N/A
Chloroethane	<59 (D)	<0.060 (D)	<0.010	<0.050 (D)	<0.10 (D)	N/A
Methylene chloride	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
Acetone	<588 (D)	<0.603 (D)	<0.100	<0.500 (D)	<1.00 (D)	N/A
Carbon disulfide	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
1,1-Dichloroethene	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
1,1-Dichloroethane	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
cis-1,2-Dichloroethene	478 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
trans-1,2-Dichloroethene	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
Chloroform	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
1,2-Dichloroethane	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
2-Butanone	<294 (D)	<0.302 (D)	<0.050	<0.250 (D)	<0.50 (D)	N/A
1,1,1-Trichloroethane	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
Carbon tetrachloride	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
Bromodichloromethane	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
1,2-Dichloropropene	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
cis-1,3-Dichloropropane	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
Trichloroethene	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
Chlorodibromomethane	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
1,1,2-Trichloroethane	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
Benzene	265 (D)	<0.030 (D)	<0.005	0.052 (D)	<0.05 (D)	N/A
trans-1,3-Dichloropropene	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
Bromoform	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
4-Methyl-2-pentanone	<294 (D)	<0.302 (D)	<0.050	<0.250 (D)	<0.50 (D)	N/A
2-Hexanone	<294 (D)	<0.302 (D)	<0.050	<0.250 (D)	<0.50 (D)	N/A
Tetrachloroethene	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
Toluene	1680 (D)	<0.030 (D)	<0.005	0.052 (D)	<0.05 (D)	N/A
1,1,2,2-Tetrachloroethane	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	21
Chlorobenzene	55 (D)	<0.030 (D)	<0.005	0.054 (D)	0.21 (D)	N/A
Ethylbenzene	283	<0.030 (D)	<0.005	0.216 (D)	0.09 (D)	N/A
Styrene	<29 (D)	<0.030 (D)	<0.005	<0.025 (D)	<0.05 (D)	N/A
o-Xylene	370 (D)	<0.030 (D)	<0.005	0.178 (D)	<0.05 (D)	N/A
m,p-Xylene	1110 (D)	<0.030 (D)	<0.005	0.444 (D)	0.05 (D)	N/A
Total VOCs	4241	<0.603 (D)	<0.100	0.996 (D)	0.35 (D)	1000

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
D - Sample analyzed at a secondary dilution
EPA Method 8240 - Volatile Organic Compounds (VOCs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA E
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWE-01B-A	EWE-01C-A	EWE-01D-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-13111-4	D97-13111-5	D97-13111-6	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	
Date Collected	10/29/97	10/29/97	10/29/97	
Compound (mg/kg) VOLATILES				
Chloromethane	<0.12 (D)	<0.10 (D)	<0.10 (D)	N/A
Bromomethane	<0.12 (D)	<0.10 (D)	<0.10 (D)	N/A
Vinyl Chloride	<0.12 (D)	<0.10 (D)	<0.10 (D)	N/A
Chloroethane	<0.12 (D)	<0.10 (D)	<0.10 (D)	N/A
Methylene chloride	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
Acetone	<1.00 (D)	<1.00 (D)	<1.00 (D)	N/A
Carbon disulfide	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
1,1-Dichloroethene	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
1,1-Dichloroethane	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
cis-1,2-Dichloroethene	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
trans-1,2-Dichloroethene	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
Chloroform	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
1,2-Dichloroethane	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
2-Butanone	<0.50 (D)	<0.50 (D)	1.95 (D)	N/A
1,1,1-Trichloroethane	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
Carbon tetrachloride	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
Bromodichloromethane	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
1,2-Dichloropropene	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
cis-1,3-Dichloropropane	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
Trichloroethene	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
Chlorodibromomethane	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
1,1,2-Trichloroethane	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
Benzene	0.91 (D)	<0.05 (D)	<0.05 (D)	N/A
trans-1,3-Dichloropropene	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
Bromoform	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
4-Methyl-2-pentanone	<0.50 (D)	<0.50 (D)	<0.50 (D)	N/A
2-Hexanone	<0.50 (D)	<0.50 (D)	<0.50 (D)	N/A
Tetrachloroethene	<0.05 (D)	<0.05 (D)	<0.05 (D)	N/A
Toluene	223 (D)	0.65 (D)	<0.05 (D)	N/A
1,1,2,2-Tetrachloroethane	<0.05 (D)	<0.05 (D)	<0.05 (D)	21
Chlorobenzene	2.91 (D)	0.54 (D)	<0.05 (D)	N/A
Ethylbenzene	1.56 (D)	1.79 (D)	<0.05 (D)	N/A
Styrene	0.11 (D)	0.06 (D)	<0.05 (D)	N/A
o-Xylene	2.04 (D)	1.79 (D)	<0.05 (D)	N/A
m,p-Xylene	6.27 (D)	15.9 (D)	0.15 (D)	N/A
Total VOCs	236.8 (D)	20.73 (D)	2.10 (D)	1000

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
D - Sample analyzed at a secondary dilution
EPA Method 8240 - Volatile Organic Compounds (VOCs)

TABLE A-2 (CONT'D)
SUBAREA E
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWE-02A-A	EWE-02B-A	EWE-02C-A	EWE-02D-A	EWE-02E-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-13207-1	D97-13207-2	D97-13207-3	D97-13207-4	D97-13207-5	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	10/30/97	10/30/97	10/30/97	10/30/97	10/30/97	
Compound (mg/kg) VOLATILES						
Chloromethane	<0.057 (D)	<0.094 (D)	<0.105 (D)	<0.114 (D)	<0.089 (D)	N/A
Bromomethane	<0.057 (D)	<0.094 (D)	<0.105 (D)	<0.114 (D)	<0.089 (D)	N/A
Vinyl Chloride	<0.057 (D)	<0.094 (D)	<0.105 (D)	<0.114 (D)	<0.089 (D)	N/A
Chloroethane	<0.057 (D)	<0.094 (D)	<0.105 (D)	<0.114 (D)	<0.089 (D)	N/A
Methylene chloride	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
Acetone	<0.573 (D)	<0.941 (D)	<0.105 (D)	<0.114 (D)	<0.892 (D)	N/A
Carbon disulfide	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
1,1-Dichloroethene	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
1,1-Dichloroethane	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
cis-1,2-Dichloroethene	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
trans-1,2-Dichloroethene	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
Chloroform	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
1,2-Dichloroethane	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
2-Butanone	<0.286 (D)	<0.470 (D)	<0.526 (D)	<0.568 (D)	<0.045 (D)	N/A
1,1,1-Trichloroethane	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
Carbon tetrachloride	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
Bromodichloromethane	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
1,2-Dichloropropane	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
cis-1,3-Dichloropropane	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
Trichloroethene	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
Chlorodibromomethane	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
1,1,2-Trichloroethane	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
Benzene	<0.029 (D)	0.145 (D)	1.36 (D)	0.268 (D)	0.394 (D)	N/A
trans-1,3-Dichloropropene	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
Bromoform	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
4-Methyl-2-pentanone	<0.286 (D)	<0.470 (D)	<0.053 (D)	<0.568 (D)	<0.446 (D)	N/A
2-Hexanone	<0.286 (D)	<0.470 (D)	<0.526 (D)	<0.568 (D)	<0.446 (D)	N/A
Tetrachloroethene	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
Toluene	<0.029 (D)	<0.047 (D)	0.322 (D)	<0.057 (D)	<0.045 (D)	N/A
1,1,2,2-Tetrachloroethane	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	21
Chlorobenzene	0.063 (D)	0.472 (D)	6.08 (D)	0.441 (D)	2.14 (D)	N/A
Ethylbenzene	<0.029 (D)	<0.047 (D)	0.219 (D)	<0.057 (D)	0.154 (D)	N/A
Styrene	<0.029 (D)	<0.047 (D)	<0.053 (D)	<0.057 (D)	<0.045 (D)	N/A
o-Xylene	<0.029 (D)	<0.047 (D)	0.276 (D)	<0.057 (D)	<0.045 (D)	N/A
m,p-Xylene	<0.029 (D)	<0.047 (D)	0.375 (D)	<0.057 (D)	<0.045 (D)	N/A
Total VOCs	0.063	0.617	8.63 (D)	0.709	2.69	1000

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
D - Sample analyzed at a secondary dilution
EPA Method 8240 - Volatile Organic Compounds (VOCs)

TABLE A-2 (CONT'D)
SUBAREA E
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWE-04C-EX1	EWE-04B-EX1	Remediation Goals (mg/kg)
Laboratory Sample No.	1717-001	1717-002	
Depth (feet)	7-7.5	7-7.5	
Type	Soil	Soil	
Date Collected	4/6/98	4/6/98	
Compound (mg/kg) VOLATILES			
Chloromethane	<0.259	<0.00565	N/A
Bromomethane	<0.259	<0.00565	N/A
Vinyl Chloride	<0.259	<0.00565	N/A
Chloroethane	<0.259	<0.00565	N/A
Methylene chloride	<0.259	<0.00565	N/A
Acetone	NA	NA	N/A
Carbon disulfide	NA	NA	N/A
1,1-Dichloroethene	<0.259	<0.00565	N/A
1,1-Dichloroethane	<0.259	<0.00565	N/A
cis-1,2-Dichloroethene	NA	NA	N/A
trans-1,2-Dichloroethene	<0.259	NA	N/A
Chloroform	<0.259	<0.00565	N/A
1,2-Dichloroethane	<0.259	<0.00565	N/A
2-Butanone	NA	NA	N/A
1,1,1-Trichloroethane	<0.259	<0.00565	N/A
Carbon tetrachloride	<0.259	<0.00565	N/A
Bromodichloromethane	<0.259	<0.00565	N/A
1,2-Dichloropropane	<0.259	<0.00565	N/A
cis-1,3-Dichloropropane	<0.259	<0.00565	N/A
Trichloroethene	0.121(J)	<0.00565	N/A
Chlorodibromomethane	<0.259	<0.00565	N/A
1,1,2-Trichloroethane	<0.259	<0.00565	N/A
Benzene	3.2	0.00635	N/A
trans-1,3-Dichloropropene	<0.259	<0.00565	N/A
Bromoform	<0.259	<0.00565	N/A
4-Methyl-2-pentanone	NA	NA	N/A
2-Hexanone	NA	NA	N/A
Tetrachloroethene	<0.259	<0.00565	N/A
Toluene	0.186(J)	<0.00565	N/A
1,1,2,2-Tetrachloroethane	<0.259	<0.00565	21
Chlorobenzene	<0.259	0.0208	N/A
Ethylbenzene	<0.259	0.00313(J)	N/A
Styrene	NA	NA	N/A
Total Xylenes	0.0745(J)	0.0168	N/A
Total VOCs	3.5815	0.04708	1000

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
N/A - Not Applicable
EPA Method 624 - Volatile Organic Compounds (VOCs)
(J) - Estimated Concentration

TABLE A-2 (CONT'D)

SUBAREA F

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWF-01A	EWF-02A	EWF-03A	EWF-04A	EWF-05A	EWF-06A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-5907-1	D96-5907-2	D96-5907-3	D96-5907-4	D96-5907-5	D96-5907-6	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	5/31/96	5/31/96	5/31/96	5/31/96	5/31/96	5/31/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	NA	<0.721	<0.734	0.764	<0.709	NA	4.0
Benzo(b)fluoranthene	NA	<0.721	<0.734	1.26	<0.709	NA	4.0
Benzo(k)fluoranthene	NA	<0.721	<0.734	<0.702	<0.709	NA	4.0
Benzo(a)pyrene	NA	<0.66	<0.66	0.772	<0.66	NA	0.66
Chrysene	NA	<0.721	<0.734	0.822	<0.709	NA	40.0
Dibenz(a,h)anthracene	NA	<0.66	<0.66	<0.66	<0.66	NA	0.66
Indeno(1,2,3-cd)pyrene	NA	<0.721	<0.734	<0.702	<0.709	NA	4.0
Total cPAHs	NA	<0.721	<0.734	3.62	<0.709	NA	29.0
Total PCBs	NA	<0.109	NA	NA	0.720	NA	2
Total Lead	146	11.8	11.3	32.5	80.5	32.5	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA G

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWG-01-AX3	EWG-02-AX3	EWG-03-AX3	EWG-04-AX3	EWG-01-AX8	EWG-03-AX8	EWG-04-AX8	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-7380-1	D96-7380-2	D96-7380-3	D96-7380-4	D96-7454-1	D96-7454-3	D96-7454-2	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/08/96	7/08/96	7/08/96	7/08/96	7/10/96	7/10/96	7/10/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<0.710	<0.903	<0.737	<0.734	<1.45	6.32	1.68	4
Benzo(b)fluoranthene	<0.710	<0.903	<0.737	<0.734	<1.45	7.41	1.89	4
Benzo(k)fluoranthene	<0.710	<0.903	<0.737	<0.734	<1.45	5.79	<1.53	4
Benzo(a)pyrene	<0.178	<0.226	<0.184	<0.184	0.932	5.82	1.71	0.66
Chrysene	<0.710	<0.903	<0.737	<0.734	<1.45	5.85	1.59	40
Dibenz(a,h)anthracene	<0.178	<0.226	<0.184	<0.184	<0.362	1.08	<0.382	0.66
Indeno(1,2,3-cd)pyrene	<0.710	<0.903	<0.737	<0.734	<1.45	2.64	<1.53	4
Total cPAHs	<0.710	<0.903	<0.737	<0.734	0.932	34.9	<6.87	29
Total PCBs	<0.108	1.18	2.37	5.93	<0.110	0.276	0.464	2 AND >

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indicates concentration exceeds remedation goal

TABLE A-2(CONT'D)

SUBAREA G

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWG-02-AX6	EWG-04-AX6	EWG-02-AX11	EWG-03-AX11	EWG-04-AX11	EWG-01-AX16 (EWG-01-AX15)	EWG-02-AX16 (EWG-02-AX15)	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-7620-4	D96-7620-5	D96-7620-1	D96-7620-2	D96-7620-3	D96-7620-6	D96-7620-7	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/12/96	7/12/96	7/12/96	7/12/96	7/12/96	7/12/96	7/12/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<0.800	<0.788	<0.741	<0.714	<0.762	<1.60	<0.719	4
Benzo(b)fluoranthene	<0.800	<0.788	<0.741	<0.714	<0.762	<1.60	<0.719	4
Benzo(k)fluoranthene	<0.800	<0.788	<0.741	<0.714	<0.762	<1.60	<0.719	4
Benzo(a)pyrene	0.331	0.335	<0.185	<0.178	<0.190	0.733	<0.180	0.66
Chrysene	<0.800	<0.788	<0.741	<0.714	<0.762	<1.60	<0.719	40
Dibenz(a,h)anthracene	<0.200	<0.197	<0.185	<0.178	<0.190	<0.401	<0.180	0.66
Indeno(1,2,3-cd)pyrene	<0.800	<0.788	<0.741	<0.714	<0.762	<1.60	<0.719	4
Total cPAHs	0.331	0.335	<0.741	<0.714	<0.762	0.733	<0.719	29
Total PCBs	0.570	0.812	0.651	<0.108	<0.115	0.462	<0.109	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Sample EWG-02-AX16 was incorrectly labeled EWG-02-AX15

Sample EWG-01-AX16 was incorrectly labeled EWG-01-AX15

Shaded data indicates concentration exceeds remediaiton goal

TABLE A-2(CONT'D)

SUBAREA G

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWG-03-AX16 (EWG-03-AX15)	EWG-04-AX16 (EWG-04-AX15)	EWG-01-AX17 (EWG-01-AX18)	EWG-02-AX17 (EWG-02-AX18)	EWG-02-AX7 (EWG-02-AX17)	EWG-02-AX7D (EWG-02-17D)	EWG-03-AX3A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-7620-8	D96-7620-9	D96-7581-5	D96-7581-6	D96-7581-7	D96-7581-8	D96-7775-1	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/12/96	7/12/96	7/11/96	7/11/96	7/11/96	7/11/96	7/16/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<0.713	<0.697	<0.723	<1.39	<0.714	<0.706	<0.727	4
Benzo(b)fluoranthene	<0.713	<0.697	<0.723	<1.39	<0.714	<0.706	<0.727	4
Benzo(k)fluoranthene	<0.713	<0.697	<0.723	<1.39	<0.714	<0.706	<0.727	4
Benzo(a)pyrene	<0.178	<0.174	<0.181	<0.348	0.345	<0.176	<0.182	0.66
Chrysene	<0.713	<0.697	<0.723	<1.39	<0.714	<0.706	<0.727	40
Dibenz(a,h)anthracene	<0.178	<0.174	<0.181	<0.348	<0.178	<0.176	<0.182	0.66
Indeno(1,2,3-cd)pyrene	<0.713	<0.697	<0.723	<1.39	<0.714	<0.706	<0.727	4
Total cPAHs	<0.713	<0.697	<0.723	<1.39	0.345	<0.706	<0.727	29
Total PCBs	0.389	<0.106	0.997	0.717	0.173	0.193	1.10	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Sample EWG-03-AX16 was incorrectly labeled as EWG-03-AX15

Sample EWG-04-AX16 was incorrectly labeled as EWG-04-AX15

Shaded data indicates concentration exceeds remedation goal

Sample EWG-01-AX17 was incorrectly labeled as EWG-01-AX18

Sample EWG-02-AX17 was incorrectly labeled as EWG-02-AX18

Sample EWG-02-AX7 was incorrectly labeled as EWG-02-AX17

Sample EWG-02-AX7D was incorrectly labeled as EWG-02-AX17D (duplicate of EWG-02-AX7)

TABLE A-2(CONT'D)

SUBAREA G

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWG-04-AX3A	EWG-01-AX8A	EWG-01-AX20	EWG-01B-AX20	EWG-04-AX8A	EWG-03A-AX8A	EWG-03B-AX8A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-7775-2	D96-7775-11	D96-7775-15	D96-7947-1	D96-7835-8	D96-7835-9	D96-7835-10	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/16/96	7/16/96	7/16/96	7/18/96	7/17/96	7/17/96	7/17/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<0.769	<0.731	<0.849	<1.63	<0.733	<1.57	<0.815	4
Benzo(b)fluoranthene	<0.769	<0.731	<0.849	<1.63	<0.733	<1.57	<0.815	4
Benzo(k)fluoranthene	<0.769	<0.731	<0.849	<1.63	<0.733	<1.57	<0.815	4
Benzo(a)pyrene	<0.192	<0.183	<0.212	<1.63	<0.183	<0.393	<0.204	0.66
Chrysene	<0.769	<0.731	<0849	<1.63	<0.733	<1.57	<0.815	40
Dibenz(a,h)anthracene	<0.192	<0.183	<0.212	<1.63	<0.183	<0.393	<0.204	0.66
Indeno(1,2,3-cd)pyrene	<0.769	<0.731	<0.849	<1.63	<0.733	<1.57	<0.815	4
Total cPAHs	<0.769	<0.731	<0.849	<1.63	<0.733	<1.57	<0.815	29
Total PCBs	1.01	<0.111	<0.129	<0.163	<0.111	2.29	1.70	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA G

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWG-03A-AX8B	EWG-03A-AX8BD	EWG-01B-AX20A	EWG-01A-AX12	EWG-01B-AX12	EWG-04A-AX12	EWG-04B-AX12	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-8395-4	D96-8395-3	D96-8395-5	D96-8870-2	D96-8870-1	D96-8870-4	D96-8870-3	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/30/96	7/30/96	7/30/96	8/12/96	8/12/96	8/12/96	8/12/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<0.710	<0.717	1.91	<0.734	<0.747	<0.761	<0.766	4
Benzo(b)fluoranthene	<0.710	<0.717	2.53	<0.734	<0.747	<0.761	<0.766	4
Benzo(k)fluoranthene	<0.710	<0.717	1.67	<0.734	<0.747	<0.761	<0.766	4
Benzo(a)pyrene	<0.178	<0.179	1.59	<0.184	<0.187	0.225	<0.191	0.66
Chrysene	<0.710	<0.717	2.21	<0.734	<0.747	<0.761	<0.766	40
Dibenz(a,h)anthracene	<0.178	<0.179	<0.414	<0.184	<0.187	<0.190	<0.191	0.66
Indeno(1,2,3-cd)pyrene	<0.710	<0.717	<1.66	<0.734	<0.747	<0.761	<0.766	4
Total cPAHs	<0.710	<0.717	10.2	<0.734	<0.747	0.225	<0.766	29
Total PCBs	2.19	1.14	NA	1.72	1.93	6.04	0.661	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Sample EWG-03A-AX8BD is a duplicate of sample EWG-03A-AX8B

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA G

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWG-02-AX1	EWG-03-AX1	EWG-04-AX1	EWG-03A-AX8C	EWG-04A-AX12A	EWG-04-AX13	EWG-04-AX20	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-8874-1	D96-8874-2	D96-8874-3	D96-8925-3	D96-9151-1	D96-9151-2	D96-9286-3	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	8/12/96	8/12/96	8/12/96	8/13/96	8/16/96	8/16/96	8/20/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	4
Benzo(b)fluoranthene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	4
Benzo(k)fluoranthene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	4
Benzo(a)pyrene	<0.183	<0.188	<0.180	NA	NA	<0.178	<0.185	0.66
Chrysene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	40
Dibenz(a,h)anthracene	<0.183	<0.188	<0.180	NA	NA	<0.178	<0.185	0.66
Indeno(1,2,3-cd)pyrene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	4
Total cPAHs	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	29
Total PCBs	<0.111	1.57	0.968	0.492	0.600	0.539	<0.112	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA G

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWG-03A-AX8B	EWG-03A-AX8BD	EWG-01B-AX20A	EWG-01A-AX12	EWG-01B-AX12	EWG-04A-AX12	EWG-04B-AX12	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-8395-4	D96-8395-3	D96-8395-5	D96-8870-2	D96-8870-1	D96-8870-4	D96-8870-3	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/30/96	7/30/96	7/30/96	8/12/96	8/12/96	8/12/96	8/12/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<0.710	<0.717	1.91	<0.734	<0.747	<0.761	<0.766	4
Benzo(b)fluoranthene	<0.710	<0.717	2.53	<0.734	<0.747	<0.761	<0.766	4
Benzo(k)fluoranthene	<0.710	<0.717	1.67	<0.734	<0.747	<0.761	<0.766	4
Benzo(a)pyrene	<0.178	<0.179	1.59	<0.184	<0.187	0.225	<0.191	0.66
Chrysene	<0.710	<0.717	2.21	<0.734	<0.747	<0.761	<0.766	40
Dibenz(a,h)anthracene	<0.178	<0.179	<0.414	<0.184	<0.187	<0.190	<0.191	0.66
Indeno(1,2,3-cd)pyrene	<0.710	<0.717	<1.66	<0.734	<0.747	<0.761	<0.766	4
Total cPAHs	<0.710	<0.717	10.2	<0.734	<0.747	0.225	<0.766	29
Total PCBs	2.19	1.14	NA	1.72	1.93	6.04	0.661	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Sample EWG-03A-AX8BD is a duplicate of sample EWG-03A-AX8B

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA G

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWG-02-AX1	EWG-03-AX1	EWG-04-AX1	EWG-03A-AX8C	EWG-04A-AX12A	EWG-04-AX13	EWG-04-AX20	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-8874-1	D96-8874-2	D96-8874-3	D96-8925-3	D96-9151-1	D96-9151-2	D96-9286-3	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	8/12/96	8/12/96	8/12/96	8/13/96	8/16/96	8/16/96	8/20/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	4
Benzo(b)fluoranthene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	4
Benzo(k)fluoranthene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	4
Benzo(a)pyrene	<0.183	<0.188	<0.180	NA	NA	<0.178	<0.185	0.66
Chrysene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	40
Dibenz(a,h)anthracene	<0.183	<0.188	<0.180	NA	NA	<0.178	<0.185	0.66
Indeno(1,2,3-cd)pyrene	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	4
Total cPAHs	<0.730	<0.750	<0.718	NA	NA	<0.711	<0.741	29
Total PCBs	<0.111	1.57	0.968	0.492	0.600	0.539	<0.112	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA G
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWG-01B-AX20B	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8066-1	
Depth (feet)	1.5-2.0	
Type	Soil/Grab	
Date Collected	6/30/97	
Compound (mg/kg) cPAHs		
Benzo(a)anthracene	<0.651	4
Benzo(b)fluoranthene	<0.651	4
Benzo(k)fluoranthene	<0.651	4
Benzo(a)pyrene	0.344	0.66
Chrysene	<0.651	40
Dibenz(a,h)anthracene	<0.163	0.66
Indeno(1,2,3-cd)pyrene	<0.651	4
Total cPAHs	0.344	29
Total PCBs	NA	2

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

TABLE A-2 (CONT'D)

SUBAREA H

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWH-04-AX1	EWH-01-AX2	EWH-01-AX2D	EWH-02-AX2	EWH-03-AX2	EWH-04-AX2	EWH-01-AX6	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-7835-11	D96-7835-13	D96-7380-6	D96-7380-9	D96-7380-10	D96-7835-11	D96-7380-12	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/17/96	7/17/96	7/08/96	7/08/96	7/08/96	7/17/96	7/08/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<1.63	<1.84	<1.78	<1.68	<0.873	<0.943	6	4
Benzo(b)fluoranthene	<1.63	<1.84	<1.78	<1.68	<0.873	<0.943	3.78	4
Benzo(k)fluoranthene	<1.63	<1.84	<1.78	<1.68	<0.873	<0.943	3.20	4
Benzo(a)pyrene	<0.406	0.735	<0.446	<0.420	<0.218	<0.236	3.93	0.66
Chrysene	<1.63	<1.84	<1.78	<1.68	<.873	<0.943	5.45	40
Dibenz(a,h)anthracene	<0.406	<0.460	<0.446	<0.420	<0.218	<0.236	0.698	0.66
Indeno(1,2,3-cd)pyrene	<1.63	<1.84	<1.78	<1.68	<0.873	<0.943	2.77	4
Total cPAHs	<1.63	0.735	<1.78	<1.68	<0.873	<0.943	26.1	29
Total PCBs	<0.123	<0.139	1.26	1.01	0.423	62.1	218	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

Sample EWH-01-AX2D is a duplicate of sample EWH-01-AX2

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA H

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWH-02-AX6	EWH-03-AX6	EWH-04-AX6	EWH-02-AX8	EWH-03-AX8	EWH-04-AX8	EWH-01-AX7	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-7380-13	D96-7380-14	D96-7380-15	D96-7380-16	D96-7380-17	D96-7380-18	D96-7581-2	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/08/96	7/08/96	7/08/96	7/08/96	7/08/96	7/08/96	7/11/96	
Compound (mg/kg)								
cPAHs								
Benzo(a)anthracene	6.01	17.9	65.9	<0.797	<1.45	<0.734	2.88	4
Benzo(b)fluoranthene	4.50	25.9	78.5	<0.797	<1.45	<0.734	4.16	4
Benzo(k)fluoranthene	3.49	<16.0	52.9	<0.797	<1.45	<0.734	<1.58	4
Benzo(a)pyrene	4.44	19.2	57.8	<0.199	<0.363	<0.184	2.71	0.66
Chrysene	5.42	16.2	57	<0.797	<1.45	<0.734	2.72	40
Dibenz(a,h)anthracene	1.65	<3.99	8.87	<0.199	<0.363	<0.184	0.611	0.66
Indeno(1,2,3-cd)pyrene	3.13	<16.0	29.2	<0.797	<1.45	<0.734	<1.58	4
Total cPAHs	28.4	79.2	351	<0.797	<1.45	<0.734	13.1	29
Total PCBs	24.2	0.979	23.8	9.93	16	0.200	4.58	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA H

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWH-02-AX7	EWH-03-AX7	EWH-04-AX7	EWH-01A-AX7	EWH-01-AX2A	EWH-04-AX2A	EWH-01-AX6A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-7581-3	D96-7581-1	D96-7581-4	D96-7581-11	D96-7775-3	D96-7775-4	D96-7775-5	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/11/96	7/11/96	7/11/96	7/11/96	7/16/96	7/16/96	7/16/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<1.61	<0.827	<1.69	10.7	1.09	2.73	3.12	4
Benzo(b)fluoranthene	<1.61	<0.827	2.84	15	1.22	2.85	3.25	4
Benzo(k)fluoranthene	<1.61	<0.827	<1.69	4.19	<0.843	1.01	2.14	4
Benzo(a)pyrene	<0.403	0.455	1.74	11.4	1.02	2.08	2.95	0.66
Chrysene	<1.61	<0.827	<1.69	10.6	1.01	2.47	2.73	40
Dibenz(a,h)anthracene	<0.403	<0.207	<0.422	0.606	<0.211	0.293	0.381	0.66
Indeno(1,2,3-cd)pyrene	<1.61	<0.827	<1.69	4.63	<0.843	<0.812	1.30	4
Total cPAHs	<1.61	0.455	4.58	57.7	4.33	11.4	15.9	29
Total PCBs	13.4	56.5	1.07	143	0.332	<0.123	4.16	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA H

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWH-01-AX6AD	EWH-02-AX6A	EWH-03-AX6A	EWH-04-AX6A	EWH-02-AX8A	EWH-03-AX8A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-7775-12	D96-7775-6	D96-7775-7	D96-7775-8	D96-7775-9	D96-7775-10	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/16/96	7/16/96	7/16/96	7/16/96	7/16/96	7/16/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	<0.767	1.90	1.15	2.03	<0.742	<0.711	4
Benzo(b)fluoranthene	<0.767	2.68	1.76	2.37	<0.742	<0.711	4
Benzo(k)fluoranthene	<0.767	0.919	<0.853	1.15	<0.742	<0.711	4
Benzo(a)pyrene	0.300	1.93	1.32	1.95	<0.186	<0.178	0.66
Chrysene	<0.767	1.87	1.07	1.95	<0.742	<0.711	40
Dibenz(a,h)anthracene	<0.192	0.319	0.225	<0.259	<0.186	<0.178	0.66
Indeno(1,2,3-cd)pyrene	<0.767	0.984	<0.853	<1.04	<0.742	<0.711	4
Total cPAHs	0.300	10.6	5.52	9.45	<0.742	<0.711	29
Total PCBs	1.36	24.2	1.10	5.96	1.77	0.442	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indicates concentration exceeds remediation goal

EHW-01-AX6AD is a duplicate of sample EHW-01-AX6A

TABLE A-2 (CONT'D)

SUBAREA H

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWH-01-AX3 (EWH-01B-AX3)	EWH-01-AX7A	EWH-01A-AX7A	EWH-02-AX7A	EWH-03-AX7A	EWH-04-AX7A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-7947-2	D96-7995-1	D96-7995-2	D96-7995-5	D96-7995-4	D96-7995-3	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/16/96	7/18/96	7/18/96	7/18/96	7/18/96	7/18/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	<3.39	<1.67	0.876	<0.793	5.95	<1.81	4
Benzo(b)fluoranthene	<3.39	<1.67	1.09	<0.793	4.37	<1.81	4
Benzo(k)fluoranthene	<3.39	<1.67	1.06	<0.793	4.97	<1.81	4
Benzo(a)pyrene	2.16	1.04	1.05	0.450	5.28	1.27	0.66
Chrysene	<3.39	<1.67	0.926	<0.793	5.19	<1.81	40
Dibenz(a,h)anthracene	<0.848	<0.418	0.380	<0.198	1.19	<0.451	0.66
Indeno(1,2,3-cd)pyrene	<3.39	<1.67	<0.733	<0.793	3.37	<1.81	4
Total cPAHs	2.16	1.04	5.39	0.450	30.3	1.27	29
Total PCBs	1.53	0.734	1.98	<0.120	30.5	0.178	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Sample EWH-01-AX3 incorrectly reported as EWH-01B-AX3

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA H

SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWH-04-AX2B	EWH-01-AX2B	EWH-01-AX3A	EWH-01-AX6B	EWH-02-AX6B	EWH-03A-AX7C	EWH-03B-AX7C	EWH-03A-AX7D	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-8395-6	D96-8395-7	D96-8395-8	D96-8395-9	D96-8395-10	D96-9011-1	D96-9011-2	D96-9285-1(cPAHs) D96-9503-1(PCBs)	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/30/96	7/30/96	7/30/96	7/30/96	7/30/96	8/14/96	8/14/96	8/21/96	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	<0.819	<1.70	2.12	<1.52	<1.53	NA	NA	<0.732	4
Benzo(b)fluoranthene	0.898	<1.70	2.46	1.74	2.00	NA	NA	<0.732	4
Benzo(k)fluoranthene	<0.819	<1.70	<1.69	<1.52	<1.53	NA	NA	<0.732	4
Benzo(a)pyrene	0.720	0.652	2.070	1.130	1.470	NA	NA	<0.183	0.66
Chrysene	<0.819	<1.70	2.17	<1.52	<1.53	NA	NA	<0.732	40
Dibenz(a,h)anthracene	<0.205	<0.426	<0.422	<0.379	<0.383	NA	NA	<0.183	0.66
Indeno(1,2,3-cd)pyrene	<0.819	<1.70	<1.69	<1.52	<1.53	NA	NA	<0.732	4
Total cPAHs	1.61	0.652	8.82	2.86	3.47	NA	NA	0.752	29
Total PCBs	NA	NA	NA	6.610	11.700	3.330	1.91	<0.111	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA H
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWH-04-AX2C	EWH-02-AX6	EWH-02-AX6C	EWH-02-AX6D	EWH-01-AX3B	EWH-01-AX6C	EWH-04-AX1	Remediation
Laboratory Sample No.	D97-8016-1	D97-8016-2	D97-8016-3	D97-8596-1	D97-8066-2	D97-8066-3	D97-8066-4	Goals (mg/kg)
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/27/97	6/27/97	6/27/97	7/10/97	6/30/97	6/30/97	6/30/97	
Compound (mg/kg)								
cPAHs								
Benzo(a)anthracene	<0.720	<0.727	<7.21 (D)	0.88	10.5 (D)	39.2 (D)	<0.705	4
Benzo(b)fluoranthene	<0.720	<0.727	<7.21 (D)	0.909	15.61 (D)	40.4 (D)	<0.705	4
Benzo(k)fluoranthene	<0.720	<0.727	<7.21 (D)	<0.729	6.14	20.3 (D)	<0.705	4
Benzo(a)pyrene	<0.180	<0.182	<0.180 (D)	0.819	11.7 (D)	32.4 (D)	<0.176	0.66
Chrysene	<0.720	<0.727	<7.21 (D)	0.86	21.1 (D)	40.6 (D)	<0.705	40
Dibenz(a,h)anthracene	<0.180	<0.182	<0.180 (D)	0.219	1.78	7.29	<0.176	0.66
Indeno(1,2,3-cd)pyrene	<0.720	<0.727	<7.21 (D)	0.76	5.95	12.2 (D)	<0.705	4
Total cPAHs	<0.720	<0.727	<7.21 (D)	4.45	64	192	<0.705	29
Total PCBs	NA	<0.110	<54.6	<0.111	NA	0.556	<0.108	2

NOTES:
All analyses performed by Inchcape Testing Services. NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
D - Sample analyzed at a secondary dilution
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA H
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWH-01-AX3C	EWH-01-AX3D	EWH-01-AX6F	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8960-1	D97-8961-1	D97-8960-2	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	
Date Collected	7/21/97	7/21/97	7/21/97	
Compound (mg/kg) cPAHs				
Benzo(a)anthracene	2.73	<8.81 (D)	<0.825	4
Benzo(b)fluoranthene	3.58	<8.81 (D)	1.09	4
Benzo(k)fluoranthene	1.34	<8.81 (D)	<0.825	4
Benzo(a)pyrene	2.61	4.70 (D)	0.784	0.66
Chrysene	2.72	<8.81 (D)	0.870	40
Dibenz(a,h)anthracene	0.521	<2.20 (D)	<0.206	0.66
Indeno(1,2,3-cd)pyrene	1.42	<8.81 (D)	<0.825	4
Total cPAHs	14.9	<8.81 (D)	2.74	29
Total PCBs	NA	0.567	NA	2

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
D - Sample analyzed at a secondary dilution
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal
Sample EWH-01-AX3D is a duplicate of sample EWH-01-AX3C

TABLE A-2 (CONT'D)

SUBAREA I

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWI-01A-AX5	EWI-01B-AX5	EWI-02A-AX5	EWI-02B-AX5	EWI-03A-AX5	EWI-03B-AX5	EWI-04A-AX5	EWI-04B-AX5	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-8492-6	D96-8492-5	D96-8492-4	D96-8492-3	D96-8492-2	D96-8492-1	D96-8492-8	D96-8492-7	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	<0.737	<0.737	<0.747	1.21	<0.784	<0.775	<.762	<0.724	4
Benzo(b)fluoranthene	<0.737	<0.737	<0.747	1.19	<0.784	<0.775	<.762	<0.724	4
Benzo(k)fluoranthene	<0.737	<0.737	<0.747	1.20	<0.784	<0.775	<.762	<0.724	4
Benzo(a)pyrene	0.627	0.187	0.497	0.887	0.198	0.302	0.240	0.263	0.66
Chrysene	0.774	<0.737	<0.747	1.27	<0.784	<0.775	<0.762	<0.724	40
Dibenz(a,h)anthracene	<0.184	<0.184	0.250	0.420	<0.196	<0.194	<0.191	<0.181	0.66
Indeno(1,2,3-cd)pyrene	<0.737	<0.737	<0.747	0.830	<0.784	<0.775	<0.762	<0.724	4
Total cPAHs	1.40	0.187	0.747	7.01	0.198	0.302	0.240	0.263	29
Total PCBs	<0.112	<0.112	0.827	0.843	0.701	<0.117	<0.115	<0.110	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA I

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWI-01A-AX1	EWI-01B-AX1	EWI-02A-AX1	EWI-02B-AX1	EWI-03A-AX1	EWI-03A-AX1D	EWI-03B-AX1	EWI-04A-AX1	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-8497-7	D96-8497-8	D96-8497-1	D96-8497-2	D96-8497-3	D96-8497-4	D96-8497-9	D96-8497-10	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	6.34	0.752	<0.770	<0.749	0.888	<0.742	8.46(J)	0.916	4
Benzo(b)fluoranthene	10.0	0.752	<0.770	<0.749	1.09	<0.742	9.54(J)	1.14	4
Benzo(k)fluoranthene	3.74	0.752	<0.770	<0.749	<0.753	<0.742	3.96	<0.777	4
Benzo(a)pyrene	8.75	0.338	0.264	0.442	0.96	0.534	7.58(J)	0.685	0.66
Chrysene	6.21	<0.752	<0.770	<0.749	0.921	<0.742	8.00(J)	0.926	40
Dibenz(a,h)anthracene	1.6	<0.188	<0.192	<0.187	<0.188	<0.186	1.25	<0.194	0.66
Indeno(1,2,3-cd)pyrene	5.9	<0.752	<0.770	<0.749	<0.753	<0.742	3.63	<0.777	4
Total cPAHs	42.5	0.338	0.264	0.442	3.76	0.534	42.4(J)	3.82	29
Total PCBs	<0.122	<0.114	<0.117	<0.114	<0.114	<0.112	<0.115	<0.118	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

Sample EWI-03A-AX1D is a duplicate of sample EWI-03A-AX1

(J) - Estimated Concentration

TABLE A-2 (CONT'D)

SUBAREA I

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWI-03B-AX1A	EWI-03B-AX1B	EWI-03-AX4	EWI-03-AX4D	EWI-03-AX6	EWI-04-AX4	EWI-02-AX6	EWI-04B-AX1	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-9151-3	D96-9404-1	D96-9286-1	D96-9286-2	D96-9286-4	D96-9287-1	D96-9287-4	D96-8497-11	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	8/15/96	8/22/96	8/20/96	8/20/96	8/21/96	8/20/96	8/21/96	8/1/96	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	11.2	87.1	<0.748	1.29	8.1	4	<3.90	11.7	4
Benzo(b)fluoranthene	16.3	55.9	<0.748	1.58	7.72	4.96	<3.90	13.9	4
Benzo(k)fluoranthene	10.7	56.3	<0.748	0.816	<3.67	<3.86	<3.90	6.23(J)	4
Benzo(a)pyrene	11.6	63.8	0.350	1.21	6.11	3.63	<0.975	11.6	0.66
Chrysene	9.42	62.8	<0.748	1.29	6.07	4.04	<3.90	13.4	40
Dibenz(a,h)anthracene	1.55	12.4	<0.187	<0.185	1.06	<0.964	<0.975	2.09	0.66
Indeno(1,2,3-cd)pyrene	3.94	34.0	<0.748	0.797	<3.67	<3.86	<3.90	5.58	4
Total cPAHs	64.7	352	0.350	6.99	27.1	16.6	<3.90	64.5(J)	29
Total PCBs	NA	NA	1.46	1.66	2.78	11.2	<0.118	16	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Sample EWI-03-AX4D is a duplicate of sample EWI-03-AX4

(J) - Estimated Concentration

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA I

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWI-02-AX3	EWI-03-AX4A	EWI-03-AX6A	EWI-03-AX6B	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-9407-1	D96-10022-3	D96-10022-4	D96-11801-11	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	
Date Collected	8/23/96	9/10/96	9/10/96	10/18/96	
Compound (mg/kg) cPAHs					
Benzo(a)anthracene	5.25	<0.769	2.23	3.61	4
Benzo(b)fluoranthene	5.33	<0.769	2.84	3.60	4
Benzo(k)fluoranthene	<4.56	<0.769	1.05	1.72	4
Benzo(a)pyrene	4.84	0.423	2.11	2.86	0.66
Chrysene	4.86	<0.769	2.17	3.26	40
Dibenz(a,h)anthracene	1.19	<0.192	0.394	0.485	0.66
Indeno(1,2,3-cd)pyrene	<4.90	<0.769	1.21	1.56	4
Total cPAHs	21.4	0.423	12.1	17.1	29
Total PCBs	2.09	NA	1.22	NA	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA I
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWI-03-AX6C	EWI-01-AX6F	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8066-5	D97-8960-4	
Depth (feet)	1.5-2.0	1.5-2.0	
Type	Soil	Soil	
Date Collected	6/30/97	7/21/97	
Compound (mg/kg) cPAHs			
Benzo(a)anthracene	1.54	<0.900	4
Benzo(b)fluoranthene	1.91	<0.900	4
Benzo(k)fluoranthene	1.16	<0.900	4
Benzo(a)pyrene	1.53	<0.225	0.66
Chrysene	1.77	<0.900	40
Dibenz(a,h)anthracene	0.233	<0.225	0.66
Indeno(1,2,3-cd)pyrene	<0.783	<0.900	4
Total cPAHs	8.14	<0.900	29
Total PCBs	NA	NA	2

NOTES:
All analyses performed by Inchcape Testing Services, NJDEP Laboratory Certification No. 82716
NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
EPA Method 8270 - carcinogenic Polychlorinated Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA L

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWL-01A-AX2	EWL-01B-AX2	EWL-02-AX2	EWL-03A-AX2	EWL-03B-AX2	EWL-04A-AX2	EWL-04B-AX2	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-8492-9	D96-8492-13	D96-8492-11	D96-8492-12	D96-8492-14	D96-8492-10	D96-8492-15	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	8/1/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	1.57	4.2	5.49	2.43	3.98	<0.775	1.72	4
Benzo(b)fluoranthene	1.77	3.49	6.33	2.65	4.54	<0.775	1.75	4
Benzo(k)fluoranthene	1.44	4.14	2.86	1.96	3.82	<0.775	1.62	4
Benzo(a)pyrene	1.23	2.8	5.07	1.66	2.99	0.300	1.23	0.66
Chrysene	1.79	4.07	5.50	2.47	4.13	<0.775	1.81	40
Dibenz(a,h)anthracene	0.537	1.09	0.918	0.662	1.27	<0.194	0.459	0.66
Indeno(1,2,3-cd)pyrene	1.01	2.30	2.80	1.44	2.74	<0.775	1.00	4
Total cPAHs	9.35	22.1	29.0	13.3	23.5	0.300	9.59	29
Total PCBs	2.60	<0.119	<0.120	0.138	0.952	0.153	<0.115	2 and >

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA L

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWL-02-AX3	EWL-01-AX1	EWL-04-AX1	EWL-04-AX4	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-10023-1	D96-10023-2	D96-10023-3	D96-10023-4	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	
Date Collected	9/10/96	9/10/96	9/10/96	9/10/96	
Compound (mg/kg) cPAHs					
Benzo(a)anthracene	3.76	<0.765	<0.748	19.9	4
Benzo(b)fluoranthene	4.69	<0.765	0.879	21.4	4
Benzo(k)fluoranthene	1.79	<0.765	<0.748	10.1	4
Benzo(a)pyrene	3.32	0.422	0.689	18.2	0.66
Chrysene	3.48	<0.765	<0.748	18.4	40
Dibenz(a,h)anthracene	0.604	<0.191	<0.187	2.92	0.66
Indeno(1,2,3-cd)pyrene	1.86	<0.765	<0.748	8.43	4
Total cPAHs	19.7	0.422	1.56	99.4	29
Total PCBs	1.58	<0.116	<0.113	0.387	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA M
SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWM-03A-A	EWM-03B-A	EWM-03B-AD	EWM-03C-A	EWM-03D-A	EWM-03D-AD	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-466-1	D97-466-2	D97-467-1	D97-466-3	D97-525-1	D97-526-1	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	1/13/97	1/13/97	1/13/97	1/13/97	1/14/97	1/14/97	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	<1.80	<1.60	1.84	<1.71	2.82	2.68	4
Benzo(b)fluoranthene	<1.80	<1.60	2.42	<1.71	3.78	4.13	4
Benzo(k)fluoranthene	<1.80	<1.60	<1.60	<1.71	<1.71	4.05	4
Benzo(a)pyrene	0.81	0.764	1.84	0.803	2.94	2.49	0.66
Chrysene	<1.80	<1.60	1.90	<1.71	3.20	2.77	40
Dibenz(a,h)anthracene	<0.450	<0.401	<0.400	<0.427	<0.427	<0.411	0.66
Indeno(1,2,3-cd)pyrene	<1.80	<1.60	<1.60	<1.71	1.77	1.65	4
Total cPAHs	0.810	0.764	8.00	0.803	14.5	16.1	29
Total PCBs	18	4.51	5.85	7.88	11.3	13.7	2

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal
Sample EWM-03B-AD is a duplicate of sample EWM-03B-A
Sample EWM-03D-AD is a duplicate of sample EWM-03D-A

TABLE A-2 (CONT'D)
SUBAREA M
SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWM-04A-A	EWM-04B-A	EWM-04C-A	EWM-04C-AD	EWM-04D-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-617-1	D97-617-2	D97-617-3	D97-619-1	D97-617-4	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	1/14/97	1/14/97	1/14/97	1/15/97	1/14/97	
Compound (mg/kg) cPAHs						
Benzo(a)anthracene	<0.752	<0.737	1.32	2.25	55.8	4
Benzo(b)fluoranthene	<0.752	<0.737	1.81	2.79	60.1	4
Benzo(k)fluoranthene	<0.752	<0.737	<0.946	<0.990	<44.1	4
Benzo(a)pyrene	0.345	0.299	1.18	1.83	43.5	0.66
Chrysene	<0.752	<0.737	1.45	2.25	56.6	40
Dibenz(a,h)anthracene	<0.188	<0.184	0.289	0.823	<11.0	0.66
Indeno(1,2,3-cd)pyrene	<0.752	<0.737	<0.946	<0.990	<44.1	4
Total cPAHs	0.345	0.299	6.05	9.94	216	29
Total PCBs	1.14	0.155	<0.143	<0.150	11.6	2

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal
Sample EWE-04C-AD is a duplicate of sample EWE-04C-A

TABLE A-2 (CONT'D)
SUBAREA M
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWM-04E-A	EWM-04F-A	EWM-03I-A	EWM-03J-A	EWM-02A-A	EWM-02B-A	EWM-02C-A	EWM-02D-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-6622-1	D97-6622-2	D97-6622-3	D97-6622-4	D97-6622-5	D97-6622-6	D97-6622-7	D97-6622-8	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	5/29/97	5/29/97	5/29/97	5/29/97	5/29/97	5/29/97	5/29/97	5/29/97	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	<0.737	2.82	3.76	2.52	1.59	1.64	3.58	6.46	4
Benzo(b)fluoranthene	<0.737	3.23	3.72	3.07	1.87	1.86	4.6	6.41	4
Benzo(k)fluoranthene	<0.737	1.12	1.73	1.09	<0.775	<0.853	2.06	2.83	4
Benzo(a)pyrene	0.190	2.45	3	2.41	1.44	1.41	3.54	5.14	0.66
Chrysene	<0.737	2.79	3.69	2.66	1.61	1.73	3.67	6.08	40
Dibenzo(a,h)anthracene	<0.184	0.602	0.640	0.445	0.312	<0.213	0.872	1.14	0.66
Indeno(1,2,3-cd)pyrene	<0.737	1.35	1.82	1.42	0.835	<0.853	2.03	3.01	4
Total cPAHs	0.190	14.3	18.4	13.6	7.65	6.64	20.3	31.1	29
Total PCBs	4.37	25.9	3.38	4.93	<0.119	0.202	<0.123	8.39	2

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA M
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWM-02E-A	EWM-02F-A	EWM-02F-AD	EWM-03E-A	EWM-03F-A	EWM-03F-AD	EWM-04D-B	EWM-03G-A	EWM-03H-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-6622-9	D97-6622-10	D97-6622-11	D97-4518-1	D97-4518-2	D97-4518-3	D97-4650-1	D97-4606-1	D97-4606-2	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	5/29/97	5/29/97	5/29/97	4/14/97	4/14/97	4/14/97	4/16/97	4/15/97	4/15/97	
Compound (mg/kg) cPAHs										
Benzo(a)anthracene	4.05	3.92	3.8	<1.49	<0.807	<0.812	187	<0.744	5.56	4
Benzo(b)fluoranthene	3.84	4.72	3.9	<1.49	<0.807	<0.812	179	<0.744	6.54	4
Benzo(k)fluoranthene	1.57	1.41	1.44	<1.49	<0.807	<0.812	76.9	<0.744	2.71	4
Benzo(a)pyrene	3.38	3.73	3.18	<0.372	<0.202	0.449	137	<0.186	4.77	0.66
Chrysene	3.92	3.91	3.75	<1.49	<0.807	<0.812	137	<0.744	5.05	40
Dibenz(a,h)anthracene	0.95	0.994	0.415	<0.372	<0.202	<0.203	10.6	<0.186	0.695	0.66
Indeno(1,2,3-cd)pyrene	1.9	2.43	1.86	<1.49	<0.807	<0.812	52.2	<0.744	2.3	4
Total cPAHs	19.5	21	18.3	<1.49	<0.807	0.449	779	<0.744	27.6	29
Total PCBs	1.1	2.98	2.51	0.577	10.1	7.58	9.71	0.424	31.5	2

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal
Sample EWM-02F-AD is a duplicate of sample EWM-02F-A
Sample EWM-03F-AD is a duplicate of sample EWM-03F-A

TABLE A-2 (CONT'D)
SUBAREA M
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWM-03A-A1	EWM-03B-A1	EWM-03C-A1	EWM-03D-A1	EWM-03F-A1	EWM-03H-A1	EWM-04C-A1	EWM-04D-A1	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8138-1	D97-8138-2	D97-8138-3	D97-8138-4	D97-8138-5	D97-8138-6	D97-8138-7	D97-8138-8	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/1/97	7/1/97	7/1/97	7/1/97	7/1/97	7/1/97	7/1/97	7/1/97	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	<0.741	1.51	<0.748	<1.76	NA	<0.979	20.6	19.3	4
Benzo(b)fluoranthene	<0.741	1.38	<0.748	<1.76	NA	<0.979	22.7	19.3	4
Benzo(k)fluoranthene	<0.741	<0.782	<0.748	<1.76	NA	<0.979	11.8	9.17	4
Benzo(a)pyrene	<0.185	1.56	0.396	0.538	NA	0.544	17.9	19.2	0.66
Chrysene	<0.741	<0.782	<0.748	<1.76	NA	<0.979	20.8	16.1	40
Dibenz(a,h)anthracene	<0.185	0.625	<0.187	<0.441	NA	<0.245	4.95	2.44	0.66
Indeno(1,2,3-cd)pyrene	<0.741	<0.782	<0.748	<1.76	NA	<0.979	9.95	<8.56	4
Total cPAHs	<0.741	5.18	0.396	0.538	NA	0.544	109	85.6	29
Total PCBs	<0.112	1.11	2.07	3.7	10.9	<7.52	NA	4.21	2

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA M
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWM-03A-A2	EWM-03B-A2	EWM-03C-A2	EWM-03D-A2	EWM-03C-A3 (EWM-03C-A)	EWM-03D-A3 (EWM-03D-A)	EWM-03D-A4	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8960-5	D97-8960-6	D97-8960-7	D97-8960-8	D97-9335-4	D97-9335-5	D97-9826-1	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/21/97	7/21/97	7/21/97	7/21/97	7/29/97	7/29/97	8/11/97	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	1.28	0.871	2.00	<0.790	0.762	5.85	<1.01	4
Benzo(b)fluoranthene	1.81	1.27	2.57	<0.790	1.01	6.05	<1.01	4
Benzo(k)fluoranthene	<0.750	<0.728	0.975	<0.790	<0.756	2.32	<1.01	4
Benzo(a)pyrene	1.16	0.945	1.91	0.547	0.811	4.82	0.325	0.66
Chrysene	1.31	1.05	2.12	<0.790	0.796	5.07	<1.01	40
Dibenz(a,h)anthracene	0.217	0.234	0.383	<0.198	0.215	1.09	0.253	0.66
Indeno(1,2,3-cd)pyrene	0.849	0.728	1.28	<0.790	<0.756	3.66	<1.01	4
Total cPAHs	6.63	5.00	11.2	0.547	3.60	28.9	0.578	29
Total PCBs	24.7	3.71	5.1	0.659	10.2	27.3	<0.153	2

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal
Sample EWM-03C-A3 was incorrectly labeled EWM-03C-A
Sample EWM-03D-A3 was incorrectly labeled EWM-03D-A

TABLE A-2 (CONT'D)

SUBAREA N

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWN-01A	EWN-02A	EWN-03A	EWN-04A	EWN-05A	EWN-06A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6627-12	D96-6627-13	D96-6627-14	D96-6627-15	D96-6627-15	D96-6627-17	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/19/96	6/19/96	6/19/96	6/19/96	6/19/96	6/19/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	<1.60	<1.51	<1.62	<1.52	<1.61	6.02	4
Benzo(b)fluoranthene	2.07	<1.51	<1.62	<1.52	<1.61	6.13	4
Benzo(k)fluoranthene	<1.60	<1.51	<1.62	<1.52	<1.61	2.16	4
Benzo(a)pyrene	0.826	<0.377	0.685	0.687	<0.403	5.06*	0.66
Chrysene	1.62	<1.51	<1.62	<1.52	<1.61	5.88	40
Dibenz(a,h)anthracene	<0.401	<0.377	<0.405	<0.380	<0.403	<0.402	0.66
Indeno(1,2,3-cd)pyrene	<1.60	<1.51	<1.62	<1.52	<1.61	2.05	4
Total cPAHs	4.51	<1.51	0.685	0.687	<1.61	27.3	29
Total PCBs	30.1	4.49	50.8	0.945	14.2*	8.88	2
Total Lead	312	45.5	76.1	72.7	112	307	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA N

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWN-04-AA	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-11801-10	
Depth (feet)	1.5-2.0	
Type	Soil	
Date Collected	10/18/96	
Compound (mg/kg) cPAHs		
Benzo(a)anthracene	8.65	4
Benzo(b)fluoranthene	7.85	4
Benzo(k)fluoranthene	3.42	4
Benzo(a)pyrene	8.05	0.66
Chrysene	6.38	40
Dibenz(a,h)anthracene	1.03	0.66
Indeno(1,2,3-cd)pyrene	3.30	4
Total cPAHs	34.8	29
Total PCBs	NA	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA N
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWN-04-A2	EWN-05A-A1	EWN-06A-A1	EWN-06A-A2	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8189-1	D97-8189-2	D97-8189-3	D97-8822-1	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	
Date Collected	7/2/97	7/2/97	7/2/97	7/17/97	
Compound (mg/kg) cPAHs					
Benzo(a)anthracene	1.08	1.26	<0.653	NA	4
Benzo(b)fluoranthene	1.55	1.74	<0.653	NA	4
Benzo(k)fluoranthene	0.77	1.28	<0.653	NA	4
Benzo(a)pyrene	1.24	1.51	<0.163	NA	0.66
Chrysene	1.2	1.62	<0.653	NA	40
Dibenz(a,h)anthracene	0.17	0.171	<0.163	NA	0.66
Indeno(1,2,3-cd)pyrene	0.675	0.7	<0.653	NA	4
Total cPAHs	6.69	8.28	<0.653	NA	29
Total PCBs	NA	1.58	54.4	2.01	2

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA O

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWO-01-A	EWO-01-AD	EWO-02-A	EWO-03-A	EWO-04-A	EWO-05-A	EWO-06-A	EWO-07-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6893-6	D96-6893-3	D96-6893-7	D96-6893-4	D96-6893-5	D96-6893-8	D96-6893-9	D96-6893-2	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/25/96	6/25/96	6/25/96	6/25/96	6/25/96	6/25/96	6/25/96	6/25/96	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	<6.06	<9.64	<4.37	<7.63	15.7	<1.67	<28.5	<9.78	4
Benzo(b)fluoranthene	<6.06	<9.64	<4.37	<7.63	16.9	<1.67	34.1	<9.78	4
Benzo(k)fluoranthene	<6.06	<9.64	<4.37	<7.63	12.9	<1.67	<28.5	<9.78	4
Benzo(a)pyrene	<1.51	6.73	<1.09	2.37	15.5	0.470	25.7	3.95	0.66
Chrysene	<6.06	<9.64	<4.37	<7.63	14.5	<1.67	29.2	<9.78	40
Dibenz(a,h)anthracene	<1.51	<2.41	<1.09	<1.91	4.34	<0.418	<7.13	<2.44	0.66
Indeno(1,2,3-cd)pyrene	<6.06	<9.64	<4.37	<7.63	8.96	<1.67	<28.5	<9.78	4
Total cPAHs	<6.06	6.73	<4.37	2.37	88.7	0.470	89	3.95	29
Total PCBs	8.99	23.6	26.5	31	12.3	2.02	11.4	26.8	2

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Sample EWO-01-AD is a duplicate of sample EWO-01-A

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)

SUBAREA P

SIDEWALL POST - EXCAVATION ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWP-01A	EWP-02A	EWP-03A	EWP-04A	EWP-05A	EWP-06A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-5635-1	D96-5635-2	D96-5635-3	D96-5635-4	D96-5635-5	D96-5635-6	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	5/23/96	5/23/96	5/23/96	5/23/96	5/23/96	5/23/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	<0.872	<1.33	<1.03	<0.946	<0.961	<1.59	4.0
Benzo(b)fluoranthene	<0.872	<1.33	<1.03	<0.946	<0.961	<1.59	4.0
Benzo(k)fluoranthene	<0.872	<1.33	<1.03	<0.946	<0.961	<1.59	4.0
Benzo(a)pyrene	<0.66	<0.66	<0.514	<0.473	0.480	<0.815	0.66
Chrysene	<0.872	<1.33	<1.03	<0.946	<0.961	<1.59	40.0
Dibenz(a,h)anthracene	<0.66	<0.66	<0.514	<0.473	0.480	<0.815	0.66
Indeno(1,2,3-cd)pyrene	<0.872	<1.33	<1.03	<0.946	<0.961	<1.59	4.0
Total cPAHs	<0.872	<1.33	<1.03	<0.946	<0.961	<1.59	29.0
Total PCB's	6.41	3.67	1.96	1.89	1.18	<1.59	2
Total Lead	1320	2710	4390	1980	1430	1540	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

Shaded data indicates concentration exceeds remediation goal

TABLE A-2 (CONT'D)
SUBAREA Q
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	EWQ-03A-A	EWQ-03B-A	EWQ-03BD-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-9335-1	D97-9335-2	D97-9335-3	
Depth (feet)	1.5.2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	
Date Collected	7/29/97	7/29/97	7/29/97	
Compound (mg/kg) cPAHs				
Benzo(a)anthracene	<0.810	<0.807	<16.0	4
Benzo(b)fluoranthene	<0.810	<0.807	<16.0	4
Benzo(k)fluoranthene	<0.810	<0.807	<16.0	4
Benzo(a)pyrene	0.703	0.502	<4.00	0.66
Chrysene	<0.810	<0.807	<16.00	40
Dibenz(a,h)anthracene	<0.202	<0.202	<4.00	0.66
Indeno(1,2,3-cd)pyrene	<0.810	<0.807	<16.00	4
Total cPAHs	0.703	0.502	<16.00	29
Total PCBs	0.270	1.26	1.51	2
Total Lead	156	109	78.7	600

NOTES:
All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrcarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
EPA Method 7421 - Lead
Shaded data indicates concentration exceeds remediation goal
Sample EWQ-03BD-A is a duplicate of sample EWQ-03B-A

TABLE A-3

CAP PERIMETER SURFACE SOIL ANALTYICAL RESULTS

TABLE A-3

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC01A	SSC01AD	SSC02A	SSC03A	SSC04A	SSC05A	SSC06A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-4270-1	D96-4270-4	D96-4270-5	D96-4270-6	D96-4270-7	D96-4270-8	D96-4383-1	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	4/18/96	4/18/96	4/18/96	4/18/96	4/18/96	4/18/96	4/24/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	4.62	1.97	<0.773	<1.5	<0.975	12.6	<0.868	4.0
Benzo(b)fluoranthene	4.85	2.07	<0.773	<1.5	<0.975	12.1	<0.868	4.0
Benzo(k)fluoranthene	1.65	<0.785	<0.773	<1.5	<0.975	4.75	<0.868	4.0
Benzo(a)pyrene	3.71	1.71	<0.66	<1.5	<0.66	10.2	<0.66	0.66
Chrysene	3.78	1.85	<0.773	<1.5	<0.975	11.1	<0.868	40.0
Dibenz(a,h)anthracene	<0.66	<0.785	<0.66	<1.5	<0.66	1.55	<0.66	0.66
Indeno(1,2,3-cd)pyrene	1.85	0.886	<0.773	<1.5	<0.975	4.99	<0.868	4.0
Total cPAHs	20.46	8.49	<0.773	<1.5	<0.975	57.3	<0.868	29.0
Total PCBs	0.152	0.226	0.375	1.2	0.162	4.66	<0.132	2
Total Lead	260	280	127	4010	3600	2400	533	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

All samples are 0-2' composites.

Sample SSC01AD is a duplicate sample of SSC01A.

EPA Method 7421 - Lead

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-3 (CONT'D)

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC07A	SSC08A	SSC09A	SSC10A	SSC11A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-4383-2	D96-4383-3	D96-4383-4	D96-4383-5	D96-4383-6	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	4/24/96	4/24/96	4/24/96	4/24/96	4/24/96	
Compound (mg/kg) cPAHs						
Benzo(a)anthracene	<0.799	<0.859	<1.25	<0.818	<0.829	4.0
Benzo(b)fluoranthene	<0.799	<0.859	<1.25	<0.818	<0.829	4.0
Benzo(k)fluoranthene	<0.799	<0.859	<1.25	<0.818	<0.829	4.0
Benzo(a)pyrene	<0.66	<0.66	<0.66	<0.66	0.382	0.66
Chrysene	<0.799	<0.859	<1.25	<0.818	<0.829	40.0
Dibenz(a,h)anthracene	<0.66	<0.66	<0.66	<0.66	<0.829	0.66
Indeno(1,2,3-cd)pyrene	<0.799	<0.859	<1.25	<0.818	<0.829	4.0
Total cPAHs	<0.799	<0.859	<1.25	<0.818	0.382	29.0
Total PCBs	0.678	0.443	1.85	0.929	1.41	2
Total Lead	199	561	1590	1550	1310	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

All samples are 0-2' composites.

Sample SSC01AD is a duplicate sample of SSC01A.

EPA Method 7421 - Lead

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indicates concentration exceeds remediation goal

TABLE A-3 (CONT'D)

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC12A	SSC13A	SSC14A	SSC15A	SSC18A	SSC19A	SSC20A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-4449-1	D96-4449-2	D96-4449-3	D96-4449-4	D96-4449-5	D96-4449-6	D96-4637-1	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	4/25/96	4/25/96	4/25/96	4/25/96	4/25/96	4/25/96	4/30/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	3.25	<0.865	<0.767	<0.839	<1.00	1.62	<1.01	4.0
Benzo(b)fluoranthene	5.22	1.10	0.899	<0.839	<1.00	<1.25	1.12	4.0
Benzo(k)fluoranthene	2.01	1.15	<0.767	<0.839	<1.00	<1.25	<1.01	4.0
Benzo(a)pyrene	4.68	<0.66	<0.66	<0.66	<0.66	1.41	0.791	0.66
Chrysene	3.14	<0.865	<0.767	<0.839	<1.00	2.52	<1.01	40.0
Dibenz(a,h)anthracene	<0.376	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	0.66
Indeno(1,2,3-cd)pyrene	1.56	<0.865	<0.767	<0.839	<1.00	<1.25	<1.01	4.0
Total cPAHs	18.9	2.25	0.899	<0.839	<1.00	5.55	1.12	29.0
Total PCBs	0.616	2.45	5.28	1.40	7.23	4.08	1.13	2
Total Lead	560	745	210	1020	775	7100	1320	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6610A - Lead

All samples are 0-2' composites.

Shaded data indicates concentration exceeds remediation goal

TABLE A-3 (CONT'D)

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC20AD	SSC21A	SSC22A	SSC23A	SSC24A	SSC25A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-4637-2	D96-4637-5	D96-4637-6	D96-4637-7	D96-4717-1	D96-4717-2	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	4/30/96	4/30/96	4/30/96	4/30/96	5/1/96	5/1/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	<1.00	<0.733	<1.64	1.59	NA	NA	4.0
Benzo(b)fluoranthene	<1.00	<0.733	1.76	2.67	NA	NA	4.0
Benzo(k)fluoranthene	<1.00	<0.733	<1.64	<1.55	NA	NA	4.0
Benzo(a)pyrene	0.528	0.199	1.02	1.86	NA	NA	0.66
Chrysene	<1.00	<0.733	<1.64	1.84	NA	NA	40.0
Dibenz(a,h)anthracene	<0.66	<0.66	<0.66	<0.66	NA	NA	0.66
Indeno(1,2,3-cd)pyrene	<1.00	<0.733	<1.64	<1.55	NA	NA	4.0
Total cPAHs	0.528	0.199	2.78	7.96	NA	NA	29.0
Total PCBs	0.989	0.122	0.211	0.200	NA	NA	2
Total Lead	1620	100	461	433	291	1750	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6610A - Lead

All samples are 0-2' composites.

Shaded data indicates concentration exceeds remediation goal

Sample SSC20AD is a duplicate of SSC20A.

TABLE A-3 (CONT'D)

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC26A	SSC27A	SSC28A	SSC29A	SSC30A	SSC31A	SSC32A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-4717-3	D96-4717-5	D96-4717-6	D96-4968-1	D96-4968-2	D96-4968-3	D96-4968-4	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	5/1/96	5/1/96	5/1/96	5/7/96	5/7/96	5/7/96	5/7/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	<0.853	<0.886	<1.70	<1.40	<1.16	<3.16	<1.06	4.0
Benzo(b)fluoranthene	<0.853	0.964	<1.70	<1.40	<1.16	<3.16	<1.06	4.0
Benzo(k)fluoranthene	<0.853	<0.886	<1.70	<1.40	<1.16	<3.16	<1.06	4.0
Benzo(a)pyrene	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	0.704	0.66
Chrysene	<0.853	<0.886	<1.70	<1.40	<1.16	<3.16	<1.06	40.0
Dibenz(a,h)anthracene	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.264	0.66
Indeno(1,2,3-cd)pyrene	<0.853	<0.886	<1.70	<1.40	<1.16	<3.16	<1.06	4.0
Total cPAHs	<0.853	0.964	<1.70	<1.40	<1.16	<3.16	0.704	29.0
Total PCBs	<2.58	1.38	<0.257	3.7	1.08	0.909	1.46	2
Total Lead	1390	850	5930	1260	1500	173	2210	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

All samples are 0-2' composites.

Shaded data indicates concentration exceeds remediation goal

TABLE A-3 (CONT'D)

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC33A	SSC34A	SSC35A	SSC35AD	SSC36A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-4968-5	D96-4968-6	D96-4968-7	D96-4968-8	D96-4968-11	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	5/7/96	5/7/96	5/7/96	5/7/96	5/7/96	
Compound (mg/kg) cPAHs						
Benzo(a)anthracene	<1.06	<1.07	<0.746	0.988	<1.38	4.0
Benzo(b)fluoranthene	<1.06	<1.07	<0.746	1.08	<1.38	4.0
Benzo(k)fluoranthene	<1.06	<1.07	0.746	<0.748	<1.38	4.0
Benzo(a)pyrene	0.273	<0.66	<0.66	0.983	<0.66	0.66
Chrysene	<1.06	<1.07	<0.746	0.956	<1.38	40.0
Dibenz(a,h)anthracene	<0.66	<0.66	<0.66	<0.66	<0.66	0.66
Indeno(1,2,3-cd)pyrene	<1.06	<1.07	<0.746	<0.748	<1.38	4.0
Total cPAHs	0.273	<1.07	<0.746	3.89	<1.38	29.0
Total PCBs	1.17	0.993	<0.113	<0.113	0.335	2
Total Lead	238	1130	136	165	5960	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

Sample SSC35AD is a duplicate of sample SSC35A.

All samples are 0-2' composites.

Shaded data indicates concentration exceeds remediation goal

TABLE A-3 (CONT'D)

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC37A	SSC38A	SSC39A	SSC40A	SSC41A	SSC42A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-5123-1	D96-5123-2	D96-5123-3	D96-5123-4	D96-5123-5	D96-5141-1	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	5/10/96	5/10/96	5/10/96	5/10/96	5/10/96	5/10/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	NA	NA	NA	NA	NA	<0.918	4.0
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	<0.918	4.0
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	<0.918	4.0
Benzo(a)pyrene	NA	NA	NA	NA	NA	<0.66	0.66
Chrysene	NA	NA	NA	NA	NA	<0.918	40.0
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	<0.66	0.66
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	<0.918	4.0
Total cPAHs	NA	NA	NA	NA	NA	<0.918	29.0
Total PCBs	NA	1.66	NA	NA	0.626	0.640	2
Total Lead	550	413	4530	1330	1350	61.9	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

All samples are 0-2' composites.

Shaded data indicates concentration exceeds remediation goal

NA - Not Analyzed

TABLE A-3 (CONT'D)

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC43A	SSC44A	SSC45A	SSC46A	SSC47A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-5141-3	D96-5179-1	D96-5179-2	D96-5179-3	D96-5179-4	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	5/10/96	5/13/96	5/13/96	5/13/96	5/13/96	
Compound (mg/kg) cPAHs						
Benzo(a)anthracene	<0.759	<0.791	<0.747	<0.764	<0.810	4.0
Benzo(b)fluoranthene	<0.759	<0.791	<0.747	<0.764	<0.810	4.0
Benzo(k)fluoranthene	<0.759	<0.791	<0.747	<0.764	<0.810	4.0
Benzo(a)pyrene	<0.66	<0.66	<0.66	<0.66	<0.66	0.66
Chrysene	<0.759	<0.791	<0.747	<0.764	<0.810	40.0
Dibenz(a,h)anthracene	<0.66	<0.66	<0.66	<0.66	<0.66	0.66
Indeno(1,2,3-cd)pyrene	<0.759	<0.791	<0.747	<0.764	<0.810	4.0
Total cPAHs	<0.759	<0.791	<0.747	<0.764	<0.810	29.0
Total PCBs	0.667	0.348	9.22	1.64	0.748	2
Total Lead	146	67.9	79.2	34	66.2	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

All samples are 0-2' composites.

Shaded data indicates concentration exceeds remediation goal

TABLE A-3 (CONT'D)

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC-54-A	SSC-54-AD	SSC-53-A	SSC-51-A	SSC-50-A	SSC-49-A	SSC-48-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-9954-1	D96-9954-2	D96-9954-5	D96-9954-6	D96-9954-7	D96-9954-8	D96-9954-9	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	9/9/96	9/9/96	9/9/96	9/9/96	9/9/96	9/9/96	9/9/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	NA	NA	<1.50	NA	<1.45	NA	<1.45	4
Benzo(b)fluoranthene	NA	NA	2.15	NA	<1.45	NA	<1.45	4
Benzo(k)fluoranthene	NA	NA	<1.50	NA	<1.45	NA	<1.45	4
Benzo(a)pyrene	NA	NA	1.51	NA	0.629	NA	0.743	0.66
Chrysene	NA	NA	<1.50	NA	<1.45	NA	<1.45	40
Dibenz(a,h)anthracene	NA	NA	<0.374	NA	<0.363	NA	<0.363	0.66
Indeno(1,2,3-cd)pyrene	NA	NA	<1.50	NA	<1.45	NA	<1.45	4
Total cPAHs	NA	NA	3.66	NA	0.629	NA	0.743	29
Total PCBs	NA	NA	NA	NA	NA	3.56	NA	2
Lead	56.3	46.7	NA	330	NA	1380	NA	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8270 - Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 7421 - Lead

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Sample SSC-54-AD is a duplicate of sample SSC-54-A

Shaded data indicates concentration exceeds remediation goal

TABLE A-3 (CONT'D)

CAP PERIMETER

SURFACE SOIL ANALYTICAL RESULTS

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC-50-A	SSC-52-A	SSC-55-A	SSC-56-A	SSC-57-A	SSC-58-A	SSC-59-A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-11801-14	D96-11801-15	D96-11801-18	D96-11801-16	D96-11801-12	D96-11801-13	D96-11801-17	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	10/18/96	10/18/96	10/18/96	10/18/96	10/18/96	10/18/96	10/18/96	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	NA	<1.51	NA	<0.808	<1.76	NA	<0.791	4
Benzo(b)fluoranthene	NA	<1.51	NA	<0.808	<1.76	NA	<0.791	4
Benzo(k)fluoranthene	NA	<1.51	NA	<0.808	<1.76	NA	<0.791	4
Benzo(a)pyrene	NA	0.474	NA	0.502	0.951	NA	0.258	0.66
Chrysene	NA	<1.51	NA	<0.808	<1.76	NA	<0.791	40
Dibenz(a,h)anthracene	NA	<0.378	NA	<0.202	<0.440	NA	<0.198	0.66
Indeno(1,2,3-cd)pyrene	NA	<1.51	NA	<0.808	<1.76	NA	<0.791	4
Total cPAHs	NA	0.474	NA	0.502	0.951	NA	0.258	29
Total PCBs	4.62	NA	5.09	NA	NA	0.834	NA	2
Lead	NA	184	NA	NA	NA	1210	NA	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 7421 - Lead

Shaded data indicates concentration exceeds remediation goal

TABLE A-3 (CONT'D)
CAP PERIMETER
SURFACE SOIL ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	SSC-61A	SSC-62-A	SSC-63-A	SSC-64-A	Remediation Goals (mg/kg)
Laboratory Report No.	N/A	J421	J421	J421	
Laboratory Sample No.	D97-8960-3	99031	99032	99033	
Depth (feet)	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	
Date Collected	7/21/97	11/24/98	11/24/98	11/24/98	
Compound (mg/kg) cPAHs	(*)	(**)	(**)	(**)	
Benzo(a)anthracene	NA	NA	NA	0.79	4
Benzo(b)fluoranthene	NA	NA	NA	0.770(J)	4
Benzo(k)fluoranthene	NA	NA	NA	1.2	4
Benzo(a)pyrene	NA	NA	NA	0.38	0.66
Chrysene	NA	NA	NA	0.76	40
Dibenz(a,h)anthracene	NA	NA	NA	0.33	0.66
Indeno(1,2,3-cd)pyrene	NA	NA	NA	0.11	4
Total cPAHs	NA	NA	NA	NA	29
Total PCBs	7.05	0.77	NA	NA	2
Total Lead	NA	NA	184	NA	600

NOTES:
(*) - Analysis performed by Intertek Testing Services, NJDEP Laboratory Certification 82716.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Shaded data indicates concentration exceeds remediation goal

TABLE A-4

SOIL STOCKPILE ANALTYICAL RESULTS

TABLE A-4
SUBAREAS D and E
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD-01	ESD-02	ESD-03	ESD-04	ESD-05	ESD-06	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8663-1	D97-8663-2	D97-8663-3	D97-8663-4	D97-8663-5	D97-8663-6	
Depth (feet)	10	10	10	10	10	10	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/14/97	7/14/97	7/14/97	7/14/97	7/14/97	7/14/97	
Compound (mg/kg) VOLATILES							
Chloromethane	<0.062(D)	<0.065(D)	<0.060(D)	<0.058(D)	<0.064(D)	<0.063D	N/A
Bromomethane	<0.062(D)	<0.065(D)	<0.060(D)	<0.058(D)	<0.064(D)	<0.063(D)	N/A
Vinyl Chloride	<0.062(D)	<0.065(D)	<0.060(D)	<0.058(D)	<0.064(D)	<0.063(D)	N/A
Chloroethane	<0.062(D)	<0.065(D)	<0.060(D)	<0.058(D)	<0.064(D)	<0.063(D)	N/A
Methylene chloride	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
Acetone	<0.617(D)	<0.653(D)	<0.602(D)	<0.575(D)	<0.644(D)	<0.631(D)	N/A
Carbon disulfide	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
1,1-Dichloroethene	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
1,1-Dichloroethane	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
cis-1,2-Dichloroethene	0.083(D)	1.57(D)	6.4(D)	1.73(D)	0.735(D)	1.77(D)	N/A
trans-1,2-Dichloroethene	<0.031(D)	0.287(D)	0.482(D)	0.230(D)	0.101(D)	0.404(D)	N/A
Chloroform	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
1,2-Dichloroethane	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
2-Butanone	<0.309(D)	<0.326(D)	<0.301(D)	<0.288(D)	<0.322(D)	<0.315(D)	N/A
1,1,1-Trichloroethane	<0.031(D)	0.038(D)	0.110(D)	0.039(D)	<0.032(D)	0.044(D)	N/A
Carbon tetrachloride	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
Bromodichloromethane	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
1,2-Dichloropropane	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
cis-1,3-Dichloropropene	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
Trichloroethene	<0.031(D)	0.183(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
Chlorodibromomethane	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
1,1,2-Trichloroethane	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
Benzene	0.069(D)	2.22(D)	0.446(D)	0.138(D)	0.580(D)	0.567(D)	N/A
trans-1,3-Dichloropropene	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
Bromoform	<0.031(D)	<0.033(D)	<0.030(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
4-Methyl-2-pentanone	<0.309(D)	<0.326(D)	<0.301(D)	<0.288(D)	<0.322(D)	<0.315(D)	N/A
2-Hexanone	<0.309(D)	<0.326(D)	<0.301(D)	<0.288(D)	<0.322(D)	<0.315(D)	N/A
Tetrachloroethene	<0.031(D)	0.043(D)	0.039(D)	<0.029(D)	<0.032(D)	<0.032(D)	N/A
Toluene	0.444(D)	0.849(D)	14.0(D)	8.75(D)	1.42(D)	2.02(D)	N/A
1,1,2,2-Tetrachloroethane	1.14(D)	1.02(D)	0.699(D)	0.106(D)	0.066(D)	0.071(D)	21
Chlorobenzene	0.136(D)	0.157(D)	0.325(D)	0.230(D)	0.180(D)	0.429(D)	N/A
Ethylbenzene	0.032(D)	0.107(D)	0.301(D)	0.094(D)	0.168(D)	0.252(D)	N/A
Styrene	<0.031(D)	<0.033(D)	<0.030(D)	0.033(D)	0.052(D)	<0.032(D)	N/A
o-Xylene	0.111(D)	0.144(D)	0.988(D)	0.299(D)	0.412(D)	0.757(D)	N/A
m,p-Xylene	0.333(D)	0.339(D)	3.01(D)	1.05(D)	1.55(D)	2.52(D)	N/A
Total VOCs	2.35(D)	6.96(D)	26.8(D)	12.70(D)	5.26(D)	8.83(D)	1000

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP laboratory certification No. 82716

EPA Method 8240 - Volatile Organic Compounds (VOCs)

(D) - Sample analyzed at a secondary dilution

TABLE A-4 (CONT'D)
SUBAREAS D and E
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD-07	ESD-08	ESD-09	ESD-10	ESD-11	ESD-12	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8663-7	D97-8663-8	D97-8663-9	D97-8811-1	D97-8811-2	D97-8811-3	
Depth (feet)	10	10	10	10	10	10	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/15/97	7/15/97	7/15/97	7/15/97	7/15/97	7/15/97	
Compound (mg/kg) VOLATILES							
Chloromethane	<0.075(D)	<0.068(D)	<0.068(D)	<0.012	<0.13(D)	<0.16(D)	N/A
Bromomethane	<0.075(D)	<0.068(D)	<0.068(D)	<0.012	<0.13(D)	<0.16(D)	N/A
Vinyl Chloride	<0.075(D)	<0.068(D)	<0.068(D)	<0.012	<0.13(D)	<0.16(D)	N/A
Chloroethane	<0.075(D)	<0.068(D)	<0.068(D)	<0.012	<0.13(D)	<0.16(D)	N/A
Methylene chloride	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
Acetone	<0.754(D)	<0.678(D)	<0.680(D)	<0.120	<1.26(D)	<1.65(D)	N/A
Carbon disulfide	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
1,1-Dichloroethene	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	0.19(D)	<0.08(D)	N/A
1,1-Dichloroethane	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
cis-1,2-Dichloroethene	1.81(D)	0.046(D)	1.02(D)	0.047	12.2(D)	<0.08(D)	N/A
trans-1,2-Dichloroethene	0.196(D)	<0.034(D)	0.132(D)	0.012	1.2(D)	<0.08(D)	N/A
Chloroform	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
1,2-Dichloroethane	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
2-Butanone	<0.377(D)	<0.339(D)	<0.340(D)	<0.060	<0.63(D)	<0.82(D)	N/A
1,1,1-Trichloroethane	0.045(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
Carbon tetrachloride	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
Bromodichloromethane	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
1,2-Dichloropropane	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
cis-1,3-Dichloropropene	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
Trichloroethene	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	4.03(D)	<0.08(D)	N/A
Chlorodibromomethane	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
1,1,2-Trichloroethane	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	0.12(D)	<0.08(D)	N/A
Benzene	0.573(D)	0.257(D)	0.599(D)	0.075	4.03(D)	1.98(D)	N/A
trans-1,3-Dichloropropene	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
Bromoform	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
4-Methyl-2-pentanone	<0.377(D)	<0.339(D)	<0.034(D)	<0.060	<0.63(D)	<0.82(D)	N/A
2-Hexanone	<0.377(D)	<0.339(D)	<0.034(D)	<0.060	<0.63(D)	<0.82(D)	N/A
Tetrachloroethene	<0.038(D)	<0.034(D)	<0.034(D)	<0.006	7.4(D)	<0.08(D)	N/A
Toluene	1.51(D)	0.190(D)	1.10(D)	0.037	21.7(D)	1.14(D)	N/A
1,1,2,2-Tetrachloroethane	0.039(D)	<0.034(D)	0.163(D)	<0.006	1.39(D)	<0.08(D)	21
Chlorobenzene	0.256(D)	0.854(D)	0.721(D)	0.96D	6.3(D)	16.6(D)	N/A
Ethylbenzene	0.166(D)	<0.034(D)	0.299(D)	0.52D	1.26(D)	2.64(D)	N/A
Styrene	0.053(D)	<0.034(D)	<0.034(D)	<0.006	<0.06(D)	<0.08(D)	N/A
o-Xylene	0.483(D)	0.054(D)	0.626(D)	0.048	1.08(D)	0.43(D)	N/A
m,p-Xylene	1.66(D)	0.094(D)	2.72(D)	0.065	1.76(D)	0.64(D)	N/A
Total VOCs	6.79(D)	1.50(D)	7.38(D)	1.76(D)	62.66(D)	23.43(D)	1000

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP laboratory certification No. 82716

EPA Method 8240 - Volatile Organic Compounds (VOCs)

(D) - Sample analyzed at a secondary dilution

TABLE A-4 (CONT'D)
SUBAREAS D and E
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD-13	ESD-14	ESD-15	ESD-16	ESD-17	ESD-18	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8811-4	D97-8811-5	D97-8811-6	D97-8811-7	D97-8811-8	D97-8811-9	
Depth (feet)	10	10	10	10	10	10	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/15/97	7/15/97	7/15/97	7/15/97	7/15/97	7/15/97	
Compound (mg/kg) VOLATILES							
Chloromethane	<0.15(D)	<0.16(D)	<0.12(D)	<0.13(D)	<0.15(D)	<0.18(D)	N/A
Bromomethane	<0.15(D)	<0.16(D)	<012(D)	<0.13(D)	<0.15(D)	<0.18(D)	N/A
Vinyl Chloride	<0.15(D)	<0.16(D)	<0.12(D)	<0.13(D)	<0.15(D)	<0.18(D)	N/A
Chloroethane	<0.15(D)	<0.16(D)	<0.12(D)	<0.13(D)	<0.15(D)	<0.18(D)	N/A
Methylene chloride	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
Acetone	<1.53(D)	<1.58(D)	<1.23(D)	<1.35(D)	<1.53(D)	<1.82(D)	N/A
Carbon disulfide	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
1,1-Dichloroethene	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
1,1-Dichloroethane	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
cis-1,2-Dichloroethene	<0.08(D)	0.12(D)	1.9(D)	0.19(D)	0.28(D)	0.58(D)	N/A
trans-1,2-Dichloroethene	<0.08(D)	<0.08(D)	1.23(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
Chloroform	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
1,2-Dichloroethane	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
2-Butanone	<0.77(D)	<0.79(D)	<0.62(D)	<0.67(D)	<0.77(D)	<0.91(D)	N/A
1,1,1-Trichloroethane	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
Carbon tetrachloride	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
Bromodichloromethane	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
1,2-Dichloropropane	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
cis-1,3-Dichloropropene	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
Trichloroethene	<0.08(D)	<0.08(D)	0.30(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
Chlorodibromomethane	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
1,1,2-Trichloroethane	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
Benzene	0.74(D)	0.19(D)	0.63(D)	0.13(D)	0.89(D)	1.42(D)	N/A
trans-1,3-Dichloropropene	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
Bromoform	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
4-Methyl-2-pentanone	<0.77(D)	<0.79(D)	<0.62(D)	0.82(D)	<0.77(D)	<0.91(D)	N/A
2-Hexanone	<0.77(D)	<0.79(D)	<0.62(D)	<0.67(D)	<0.77(D)	<0.91(D)	N/A
Tetrachloroethene	<0.08(D)	<0.08(D)	0.20(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
Toluene	0.20(D)	1.89(D)	6.3(D)	1.75(D)	5.2(D)	26.7(D)	N/A
1,1,2,2-Tetrachloroethane	<0.08(D)	<0.08(D)	4.3(D)	1.35(D)	0.17(D)	0.27(D)	21
Chlorobenzene	14.7(D)	1.89(D)	1.05(D)	0.92(D)	1.99(D)	1.49(D)	N/A
Ethylbenzene	1.09(D)	3.79(D)	0.53(D)	<0.07(D)	2.91(D)	16.5(D)	N/A
Styrene	<0.08(D)	<0.08(D)	<0.06(D)	<0.07(D)	<0.08(D)	<0.09(D)	N/A
o-Xylene	<0.08(D)	3.63(D)	0.79(D)	<0.07(D)	3.83(D)	19.6(D)	N/A
m,p-Xylene	<0.08(D)	8.36(D)	1.23(D)	<0.07(D)	6.75(D)	38.9(D)	N/A
Total VOCs	16.73(D)	19.87(D)	18.46(D)	5.16(D)	22.02(D)	105.46(D)	1000

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP laboratory certification No. 82716

EPA Method 8240 - Volatile Organic Compounds (VOCs)

(D) - Sample analyzed at a secondary dilution

TABLE A-4 (CONT'D)
SUBAREAS D and E
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD-19	ESD-20	ESD-21	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-8811-10	D97-8811-11	D97-8812-1	
Depth (feet)	10	10	10	
Type	Soil	Soil	Soil	
Date Collected	7/15/97	7/15/97	7/16/97	
Compound (mg/kg) VOLATILES				
Chloromethane	<0.14(D)	<0.14(D)	<0.011	N/A
Bromomethane	<0.14(D)	<0.14(D)	<0.011	N/A
Vinyl Chloride	<0.14(D)	<0.14(D)	<0.011	N/A
Chloroethane	<0.14(D)	<0.14(D)	<0.011	N/A
Methylene chloride	<0.07(D)	<0.07(D)	<0.006	N/A
Acetone	<1.40(D)	<1.38(D)	<0.115	N/A
Carbon disulfide	<0.07(D)	<0.07(D)	<0.006	N/A
1,1-Dichloroethene	<0.07(D)	<0.07(D)	<0.006	N/A
1,1-Dichloroethane	<0.07(D)	<0.07(D)	<0.006	N/A
cis-1,2-Dichloroethene	1.25(D)	3.72(D)	<0.006	N/A
trans-1,2-Dichloroethene	0.17(D)	0.70(D)	<0.006	N/A
Chloroform	<0.07(D)	<0.07(D)	<0.006	N/A
1,2-Dichloroethane	<0.07(D)	<0.07(D)	<0.006	N/A
2-Butanone	<0.70(D)	<0.69(D)	<0.057	N/A
1,1,1-Trichloroethane	<0.07(D)	<0.07(D)	<0.006	N/A
Carbon tetrachloride	<0.07(D)	<0.07(D)	<0.006	N/A
Bromodichloromethane	<0.07(D)	<0.07(D)	<0.006	N/A
1,2-Dichloropropane	<0.07(D)	<0.07(D)	<0.006	N/A
cis-1,3-Dichloropropene	<0.07(D)	<0.07(D)	<0.006	N/A
Trichloroethene	<0.07(D)	<0.07(D)	<0.006	N/A
Chlorodibromomethane	<0.07(D)	<0.07(D)	<0.006	N/A
1,1,2-Trichloroethane	<0.07(D)	<0.07(D)	<0.006	N/A
Benzene	1.18(D)	0.84(D)	<0.006	N/A
trans-1,3-Dichloropropene	<0.07(D)	<0.07(D)	<0.006	N/A
Bromoform	<0.07(D)	<0.07(D)	<0.006	N/A
4-Methyl-2-pentanone	<0.70(D)	<0.69(D)	<0.057	N/A
2-Hexanone	<0.70(D)	<0.69(D)	<0.057	N/A
Tetrachloroethene	<0.07(D)	<0.07(D)	<0.006	N/A
Toluene	6.44(D)	5.10(D)	<0.006	N/A
1,1,2,2-Tetrachloroethane	<0.07(D)	0.28(D)	<0.006	21
Chlorobenzene	1.11(D)	0.81(D)	<0.006	N/A
Ethylbenzene	1.54(D)	1.38(D)	<0.006	N/A
Styrene	<0.07(D)	<0.07(D)	<0.006	N/A
o-Xylene	2.38(D)	1.79(D)	<0.006	N/A
m,p-Xylene	3.78(D)	2.76(D)	<0.006	N/A
Total VOCs	17.85(D)	17.38(D)	<0.115	1000

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP laboratory certification No. 82716

EPA Method 8240 - Volatile Organic Compounds (VOCs)

(D) - Sample analyzed at a secondary dilution

TABLE A-4 (CONT'D)
SUBAREAS D and E
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD--22	ESD-23	ESD-24	ESD-25	ESD-26	ESD-27	ESD-28	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-13925-1	D97-13925-2	D97-13925-3	D97-13925-4	D97-13925-5	D97-13925-6	D97-13925-7	
Depth (feet)	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	
Compound (mg/kg) VOLATILES								
Chloromethane	<0.16	<0.28	<6.5	<6.6	<6.4	<5.7	<5.8	N/A
Bromomethane	<0.16	<0.28	<6.5	<6.6	<6.4	<5.7	<5.8	N/A
Vinyl Chloride	<0.16	<0.28	<6.5	<6.6	<6.4	<5.7	<5.8	N/A
Chloroethane	<0.16	<0.28	<6.5	<6.6	<6.4	<5.7	<5.8	N/A
Methylene chloride	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
Acetone	<1.63	<2.81	<65.3	<66.0	<64.2	<57.0	<58.1	N/A
Carbon disulfide	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
1,1-Dichloroethene	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
1,1-Dichloroethane	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
cis-1,2-Dichloroethene	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
trans-1,2-Dichloroethene	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
Chloroform	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
1,2-Dichloroethane	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
2-Butanone	<0.82	<1.40	<32.6	<33.0	<32.1	<28.5	<29.0	N/A
1,1,1-Trichloroethane	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
Carbon tetrachloride	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
Bromodichloromethane	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
1,2-Dichloropropane	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
cis-1,3-Dichloropropane	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
Trichloroethene	0.15	<0.14	34.5	20.7	<3.2	<2.8	<2.9	N/A
Chlorodibromomethane	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
1,1,2-Trichloroethane	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
Benzene	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
trans-1,3-Dichloropropene	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
Bromoform	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
4-Methyl-2-pentanone	<0.82	<1.40	<32.6	<33.0	<32.1	<28.5	<29.0	N/A
2-Hexanone	<0.82	<1.40	<32.6	<33.0	<32.1	<28.5	<29.0	N/A
Tetrachloroethene	0.13	<0.14	8.9	8.5	<3.2	<2.8	<2.9	N/A
Toluene	<0.08	<0.14	3.8	9.1	<3.2	13.9	<2.9	N/A
1,1,2,2-Tetrachloroethane	31.4	<0.14	363	335	5.5	<2.8	5.6	21
Chlorobenzene	<0.08	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
Ethylbenzene	<0.08	<0.14	<3.3	<4.0	<3.2	4.4	<2.9	N/A
Styrene	0.24	<0.14	<3.3	<3.3	<3.2	<2.8	<2.9	N/A
o-Xylene	0.15	<0.14	2.7(J)	9.9	<3.2	12.0	3.9	N/A
m,p-Xylene	0.15	<0.14	6.2	15.3	<3.2	6.9	<2.9	N/A
Total VOCs	32.22	<2.81	421.1	398.5	<64.2	37.2	9.5	1000

NOTES: All analyses performed by Interek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
Shaded data indicates concentration exceeds remediation goal
(J) - Estimated concentration
EPA Method 8240 - Volatile Organic Compounds (VOCs)

TABLE A-4 (CONT'D)
SUBAREAS D and E
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD--29	ESD-30	ESD-31	ESD-32	ESD-33	ESD-34	ESD-35	Remediations Goals (mg/kg)
Laboratory Sample No.	D97-13925-8	D97-13925-9	D97-13925-10	D97-13925-11	D97-13925-12	D97-13925-13	D97-13925-14	
Depth (feet)	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	
Compound (mg/kg) VOLATILES								
Chloromethane	<17.1	<0.62	<0.23	<0.23	<9.8	<10.1	<7.2	N/A
Bromomethane	<17.1	<0.62	<0.23	<0.23	<9.8	<10.1	<7.2	N/A
Vinyl Chloride	<17.1	<0.62	<0.23	<0.23	<9.8	<10.1	<7.2	N/A
Chloroethane	<17.1	<0.62	<0.23	<0.23	<9.8	<10.1	<7.2	N/A
Methylene chloride	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
Acetone	<171	<6.23	<2.28	<2.25	<98.1	<101	<72.0	N/A
Carbon disulfide	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
1,1-Dichloroethene	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
1,1-Dichloroethane	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
cis-1,2-Dichloroethene	22.5	0.91	<0.11	<0.11	13.2	17.5	<3.6	N/A
trans-1,2-Dichloroethene	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
Chloroform	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
1,2-Dichloroethane	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
2-Butanone	<85.4	6.38	3.65	2.70	<49.1	<50.5	<36.0	N/A
1,1,1-Trichloroethane	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
Carbon tetrachloride	<8.5	0.54	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
Bromodichloromethane	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
1,2-Dichloropropane	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
cis-1,3-Dichloropropane	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
Trichloroethene	17.4	3.39	<0.11	<0.11	53.4	76.4	<3.6	N/A
Chlorodibromomethane	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
1,1,2-Trichloroethane	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
Benzene	<8.5	<0.31	<0.11	0.11	5.7	<5.1	<3.6	N/A
trans-1,3-Dichloropropene	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
Bromoform	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
4-Methyl-2-pentanone	<85.4	<3.11	<1.14	<1.13	<49.1	<50.5	<36.0	N/A
2-Hexanone	<85.4	<3.11	<1.14	<1.13	<49.1	<50.5	<36.0	N/A
Tetrachloroethene	11.4	0.81	<0.11	<0.11	23.2	17.5	<3.6	N/A
Toluene	<8.5	<0.31	0.12	0.60	62.4	166	<3.6	N/A
1,1,2,2-Tetrachloroethane	28.7	7.29	1.10	0.46	70.7	1260	56.2	21
Chlorobenzene	<8.5	0.36	0.98	0.43	4.9	17.3	9.1	N/A
Ethylbenzene	<8.5	<0.31	1.16	1.40	6.6	17.5	3.5(J)	N/A
Styrene	<8.5	<0.31	<0.11	<0.11	<4.9	<5.1	<3.6	N/A
o-Xylene	<8.5	<0.31	4.38	6.27	<4.9	29.9	11.6	N/A
m,p-Xylene	<8.5	<0.31	0.2	1.02	9.4	68.1	2.9(J)	N/A
Total VOCs	80	19.68	11.59	12.99	249.5	1870.2	83.3	1000

NOTES: All analyses performed by Interek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
Shaded data indicates concentration exceeds remediation goal
(J) - Estimated concentration
EPA Method 8240 - Volatile Organic Compounds (VOCs)

TABLE A-4 (CONT'D)
SUBAREAS D and E
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD-35D	ESD-36	ESD-37	ESD-38	ESD-39	ESD-40	ESD-41	Remediations Goals (mg/kg)
Laboratory Sample No.	D97-13925-15	D97-13925-18	D97-13925-19	D97-13925-20	D97-13925-21	D97-13925-22	D97-13925-23	
Depth (feet)	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	
Compound (mg/kg) VOLATILES								
Chloromethane	<6.5	<0.32	<0.31	<1.2	<6.1	<8.0	<0.24	N/A
Bromomethane	<6.5	<0.32	<0.31	<1.2	<6.1	<8.0	<0.24	N/A
Vinyl Chloride	<6.5	<0.32	<0.31	<1.2	<6.1	<8.0	<0.24	N/A
Chloroethane	<6.5	<0.32	<0.31	<1.2	<6.1	<8.0	<0.24	N/A
Methylene chloride	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
Acetone	<64.7	<3.22	<3.10	<12.3	<60.8	<79.5	<2.39	N/A
Carbon disulfide	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
1,1-Dichloroethene	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
1,1-Dichloroethane	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
cis-1,2-Dichloroethene	<3.2	<0.16	1.13	1.0	<3.0	<4.0	1.22	N/A
trans-1,2-Dichloroethene	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	0.35	N/A
Chloroform	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
1,2-Dichloroethane	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
2-Butanone	<32.3	3.38	4.14	4.1(J)	<30.4	<39.8	2.82	N/A
1,1,1-Trichloroethane	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
Carbon tetrachloride	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
Bromodichloromethane	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
1,2-Dichloropropane	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
cis-1,3-Dichloropropane	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
Trichloroethene	<3.2	<0.16	1.34	4.6	<3.0	7.9	0.22	N/A
Chlorodibromomethane	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
1,1,2-Trichloroethane	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
Benzene	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	0.24	N/A
trans-1,3-Dichloropropene	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
Bromoform	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
4-Methyl-2-pentanone	<32.3	<1.61	<1.55	<6.2	<30.4	<39.8	<1.20	N/A
2-Hexanone	<32.3	<1.61	<1.55	<6.2	<30.4	<39.8	<1.20	N/A
Tetrachloroethene	<3.2	<0.16	0.68	0.8	<3.0	<4.0	0.12	N/A
Toluene	<3.2	0.18	1.47	1.2	<3.0	30.9	2.03	N/A
1,1,2,2-Tetrachloroethane	41.8	0.67	5.21	46.8	16.2	43.9	2.73	21
Chlorobenzene	11.0	0.27	0.39	4.6	<3.0	15.2	0.33	N/A
Ethylbenzene	4.4	<0.16	0.49	<0.6	<3.0	8.1	<0.12	N/A
Styrene	<3.2	<0.16	<0.16	<0.6	<3.0	<4.0	<0.12	N/A
o-Xylene	14.1	<0.16	8.39	<0.6	<3.0	21.3	0.59	N/A
m,p-Xylene	5.7	<0.16	2.03	<0.6	<3.0	27.4	0.43	N/A
Total VOCs	77	4.5	25.7	64.9	16.2	154.7	11.08	1000

NOTES: All analyses performed by Interek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
(J) Estimated Concentration
Shaded data indicates concentration exceeds remediation goal

TABLE A-4 (CONT'D)
SUBAREAS D and E
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD-42	ESD-43	ESD-44	ESD-45	ESD-46	ESD-47	ESD-48	Remediations Goals (mg/kg)
Laboratory Sample No.	D97-13925-24	D97-13925-25	D97-13925-26	D97-13925-27	D97-13925-28	D97-13925-29	D97-13925-30	
Depth (feet)	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	11/17/97	
Compound (mg/kg) VOLATILES								
Chloromethane	<0.65	<7.2	<0.36	<0.27	<6.8	<6.0	<0.42	N/A
Bromomethane	<0.65	<7.2	<0.36	<0.27	<6.8	<6.0	<0.42	N/A
Vinyl Chloride	<0.65	<7.2	<0.36	<0.27	<6.8	<6.0	<0.42	N/A
Chloroethane	<0.65	<7.2	<0.36	<0.27	<6.8	<6.0	<0.42	N/A
Methylene chloride	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
Acetone	<6.48	<71.8	<3.61	<2.67	<68.2	<60.4	<4.15	N/A
Carbon disulfide	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
1,1-Dichloroethene	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
1,1-Dichloroethane	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
cis-1,2-Dichloroethene	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
trans-1,2-Dichloroethene	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
Chloroform	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
1,2-Dichloroethane	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
2-Butanone	3.32	<35.9	3.22	2.78	<34.1	<30.2	5.05	N/A
1,1,1-Trichloroethane	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
Carbon tetrachloride	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
Bromodichloromethane	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
1,2-Dichloropropane	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
cis-1,3-Dichloropropane	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
Trichloroethene	0.93	<3.6	0.49	<0.13	<3.4	<3.0	<0.21	N/A
Chlorodibromomethane	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
1,1,2-Trichloroethane	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
Benzene	<0.32	<3.6	<0.18	0.22	<3.4	<3.0	0.80	N/A
trans-1,3-Dichloropropene	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
Bromoform	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
4-Methyl-2-pentanone	<3.24	<35.9	<1.81	<1.33	<34.1	<30.2	<2.08	N/A
2-Hexanone	<3.24	<35.9	<1.81	<1.33	<34.1	<30.2	<2.08	N/A
Tetrachloroethene	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
Toluene	<0.32	<3.6	<0.18	0.57	12.1	9.6	<0.21	N/A
1,1,2,2-Tetrachloroethane	18.4	114	0.65	0.22	<3.4	<3.0	<0.21	21
Chlorobenzene	<0.32	<3.6	6.12	0.14	4.6	4.8	<0.21	N/A
Ethylbenzene	<0.32	<3.6	<0.18	1.09	5.2	14.9	4.17	N/A
Styrene	<0.32	<3.6	<0.18	<0.13	<3.4	<3.0	<0.21	N/A
o-Xylene	<0.32	<3.6	0.38	0.22	21.4	76.1	<0.21	N/A
m,p-Xylene	<0.32	<3.6	0.22	0.37	19.5	24.6	<0.21	N/A
Total VOCs	22.65	114	11.08	5.61	62.8	130	10.02	1000

NOTES: All analyses performed by Interek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
Shaded data indicates concentration exceeds remediation goal

TABLE A-4 (CONT'D)
SUBAREAS D and E
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD-49	ESD-50	ESD-50D	ESD-51	ESD-52	ESD-53	ESD-54	Remediations Goals (mg/kg)
Laboratory Sample No.	D97-13925-31	D97-13991-1	D97-13991-2	D97-13991-5	D97-13991-6	D97-13991-7	D97-13991-8	
Depth (feet)	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	1-1.5	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	11/17/97	11/18/97	11/18/97	11/18/97	11/18/97	11/18/97	11/18/97	
Compound (mg/kg) VOLATILES								
Chloromethane	<0.87	<7.2	<7.0	<6.2	<7.9	<6.7	<8.4	N/A
Bromomethane	<0.87	<7.2	<7.0	<6.2	<7.9	<6.7	<8.4	N/A
Vinyl Chloride	<0.87	<7.2	<7.0	<6.2	<7.9	<6.7	<8.4	N/A
Chloroethane	<0.87	<7.2	<7.0	<6.2	<7.9	<6.7	<8.4	N/A
Methylene chloride	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Acetone	<8.66	<71.6	<69.6	<61.9	<79.3	<67.3	<83.6	N/A
Carbon disulfide	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
1,1-Dichloroethene	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
1,1-Dichloroethane	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
cis-1,2-Dichloroethene	1.31	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
trans-1,2-Dichloroethene	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Chloroform	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
1,2-Dichloroethane	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
2-Butanone	8.14	<35.8	<34.8	<30.9	<39.6	<33.6	<41.8	N/A
1,1,1-Trichloroethane	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Carbon tetrachloride	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Bromodichloromethane	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
1,2-Dichloropropane	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
cis-1,3-Dichloropropane	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Trichloroethene	1.91	3.8	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Chlorodibromomethane	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
1,1,2-Trichloroethane	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Benzene	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
trans-1,3-Dichloropropene	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Bromoform	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
4-Methyl-2-pentanone	<4.33	<35.8	<34.8	<30.9	<39.6	<33.6	<41.8	N/A
2-Hexanone	24.7	<35.8	<34.8	<30.9	<39.6	<33.6	<41.8	N/A
Tetrachloroethene	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Toluene	<0.43	45.3	42.3	68.9	18.1	7.9	<4.2	N/A
1,1,2,2-Tetrachloroethane	<0.43	11.5	10.7	5.6	22.4	<3.4	<4.2	21
Chlorobenzene	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
Ethylbenzene	1.67	8.7	7.9	12.7	<4.0	4.3	<4.2	N/A
Styrene	<0.43	<3.6	<3.5	<3.1	<4.0	<3.4	<4.2	N/A
o-Xylene	1.47	24.9	23.7	34.0	<4.0	<3.4	<4.2	N/A
m,p-Xylene	<0.43	35.2	32.6	78.2	<4.0	<3.4	<4.2	N/A
Total VOCs	39.2	129.4	117.2	199.4	40.5	12.2	<83.6	1000

NOTES: All analyses performed by Interek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
Shaded data indicates concentration exceeds remediation goal

TABLE A-4 (CONT'D)
SUBAREAS D and E
SIDEWALL POST-EXCAVATION ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESD-55	ESD-56	Remediation Goals (mg/kg)
Laboratory Sample No.	D98-3038-1	D98-3038-2	
Depth (feet)	1.5-2	1.5-2	
Type	Soil	Soil	
Date Collected	4/20/98	4/20/98	
Compound (mg/kg) VOLATILES			
Chloromethane	<0.264(D)	<0.120(D)	N/A
Bromomethane	0.141(J)(D)	0.0368(D)	N/A
Vinyl Chloride	<0.264(D)	<0.120(D)	N/A
Chloroethane	<0.264(D)	<0.120(D)	N/A
Methylene chloride	<0.132(D)	0.0435(J)(D)	N/A
Acetone	0.573(J)(D)	0.347(J)(D)	N/A
Carbon disulfide	<0.132(D)	<0.0598(D)	N/A
1,1-Dichloroethene	<0.132(D)	<0.0598(D)	N/A
1,1-Dichloroethane	<0.132(D)	<0.0598(D)	N/A
cis-1,2-Dichloroethene	0.129(J)(D)	0.176(D)	N/A
trans-1,2-Dichloroethene	<0.132(D)	0.0734(D)	N/A
Chloroform	<0.132(D)	<0.0598(D)	N/A
1,2-Dichloroethane	<0.132(D)	<0.0598(D)	N/A
2-Butanone	<1.32(D)	0.136(J)(D)	N/A
1,1,1-Trichloroethane	<0.132(D)	<0.0598(D)	N/A
Carbon tetrachloride	<0.132(D)	<0.0598(D)	N/A
Bromodichloromethane	<0.132(D)	<0.0598(D)	N/A
1,2-Dichloropropane	<0.132(D)	<0.0598(D)	N/A
cis-1,3-Dichloropropene	<0.132(D)	<0.0598(D)	N/A
Trichloroethene	0.743(D)	0.974(D)	N/A
Chlorodibromomethane	<0.132(D)	<0.0598(D)	N/A
1,1,2-Trichloroethane	<0.132(D)	<0.0598(D)	N/A
Benzene	0.527(D)	0.190(D)	N/A
trans-1,3-Dichloropropene	<0.132(D)	<0.0598(D)	N/A
Bromoform	<0.132(D)	<0.0598(D)	N/A
4-Methyl-2-pentanone	<1.32(D)	<0.598(D)	N/A
2-Hexanone	<1.32(D)	0.106(J)(D)	N/A
Tetrachloroethene	0.438(D)	0.172(D)	N/A
Toluene	0.366(D)	0.157(D)	N/A
1,1,2,2-Tetrachloroethane	7.92(D)	13.8(D)	21
Chlorobenzene	0.0727(J)(D)	0.0668(D)	N/A
Ethylbenzene	0.124(J)(D)	0.170(D)	N/A
Styrene	<0.132(D)	<0.0598(D)	N/A
Total Xylenes	0.523(D)	0.551(D)	N/A
Total VOCs	11.56(D)	17.0(D)	1000

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8260 - Volatile Organic Compounds (VOCs)
N/A - Not Applicable
D - Indicates all compounds in an analysis at a secondary dilution.

TABLE A-4 (CONT'D)

SUBAREA F

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ESF-01A	ESF-02A	ESF-03A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-5982-1	D96-5982-2	D96-5982-3	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	
Date Collected	6/4/96	6/4/96	6/4/96	
Compound (mg/kg) cPAHs				
Benzo(a)anthracene	<1.50	NA	NA	4.0
Benzo(b)fluoranthene	<1.50	NA	NA	4.0
Benzo(k)fluoranthene	<1.50	NA	NA	4.0
Benzo(a)pyrene	<0.375	NA	NA	0.66
Chrysene	<1.50	NA	NA	40.0
Dibenz(a,h)anthracene	<0.375	NA	NA	0.66
Indeno(1,2,3-cd)pyrene	<1.50	NA	NA	4.0
Total cPAHs	<1.50	NA	NA	29.0
Total PCBs	1.39	NA	NA	2
Total Lead	150	124	71.9	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

TABLE A-4 (CONT'D)
SUBAREA N
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ES-N-01A	ES-N-01AD	ES-N-02A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6627-8	D96-6627-9	D96-6627-7	
Depth (feet)	0-2	0-2	0-2	
Type	Soil	Soil	Soil	
Date Collected	6/19/96	6/19/96	6/19/96	
Compound (mg/kg) cPAHs				
Benzo(a)anthracene	3.44	2.33	9.22	4
Benzo(b)fluoranthene	4.32	3.16	10.6	4
Benzo(k)fluoranthene	2.10	<1.46	5.14	4
Benzo(a)pyrene	2.35	1.32	5.67	0.66
Chrysene	4.03	2.52	8.67	40
Dibenz(a,h)anthracene	0.689	<0.364	1.27	0.66
Indeno(1,2,3-cd)pyrene	1.82	<1.46	3.13	4
Total cPAHs	18.8	9.34	43.7	29
Total PCBs	0.766/NA	1.41/5.2	16.5/<0.25	2
Total Lead	71.5	73.6	217	600

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
EPA Method 4020 - PCBs onsite
EPA Method 6010 - Lead
Total PCBs (offsite/onsite)
Shaded data indicates concentration exceeds remediation goal

TABLE A-4 (CONT'D)
SUBAREAS M and O
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ES-O-01A	ES-O-02A	ES-O-03A	ES-O-04A	ES-O-05A	ES-O-06A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6627-1	D96-6627-2	D96-6627-3	D96-6627-4	D96-6627-5	D96-6627-6	
Depth (feet)	0-2	0-2	0-2	0-2	0-2	0-2	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/19/96	6/19/96	6/19/96	6/19/96	6/19/96	6/19/96	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	18.7	5.90	25.0	<15.5	24.9	20.0	4
Benzo(b)fluoranthene	24.3	6.4	29.3	16.3	33.7	25.0	4
Benzo(k)fluoranthene	10.9	2.72	11.5	6.6	12.0	9.2	4
Benzo(a)pyrene	18.3	5.0	23.6	13.7	25.4	17.6	0.66
Chrysene	18.9	5.65	23.6	13.8	23.0	18.5	40
Dibenz(a,h)anthracene	6.6	1.0	4.2	2.3	1.4	3.8	0.66
Indeno(1,2,3-cd)pyrene	10.2	2.80	12.2	7.3	12.8	9.6	4
Total cPAHs	106.0	29.5	117.0	61.9	133.0	101.0	29
Total PCBs	85.0/15.6	22.0/9.58	92.3/48.3	53.6/45.5	58.7/1.03	58.3/1.41	2
Total Lead	NA	NA	NA	NA	NA	NA	600

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
EPA Method 4020 - PCBs onsite
EPA Method 6010 - Lead
Total PCBs (offsite/onsite)
Shaded data indicates concentration exceeds remediation goal

TABLE A-4 (CONT'D)

SUBAREA P

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	MMP-01A	MMP-02A	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-5606-1	D96-5606-2	
Depth (feet)	1.5-2.0	1.5-2.0	
Type	Soil	Soil	
Date Collected	5/22/96	5/22/96	
Compound (mg/kg) cPAHs			
Benzo(a)anthracene	<1.17	<1.12	4.0
Benzo(b)fluoranthene	<1.17	<1.12	4.0
Benzo(k)fluoranthene	<1.17	<1.12	4.0
Benzo(a)pyrene	<0.586	0.489	0.66
Chrysene	<1.17	<1.12	40.0
Dibenz(a,h)anthracene	<0.586	<1.12	0.66
Indeno(1,2,3-cd)pyrene	<1.17	<1.12	4.0
Total cPAHs	<1.17	0.489	29.0
Total PCB's	4.19	11.6	2
Total Lead	1770	2110	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

Shaded data indicates concentration exceeds remediation goal

TABLE A-4 (CONT'D)
GROUNDWATER COLLECTION TRENCHES
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LTE-01E	LTE-02E	LTF-01E	LTF-02E	LTI-01E	LTI-01ED	LTI-02E	LTI-03E	LTI-04E	LTJ-01E	LTJ-02E	LTJ-03E	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-5606-5	D96-5606-6	D96-5636-1	D96-5636-2	D96-5460-1	D96-5460-2	D96-5460-5	D96-5460-6	D96-5606-9	D96-5606-3	D96-5606-4	D96-5606-8	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	5/22/96	5/22/96	5/23/96	5/23/96	5/16/96	5/16/96	5/16/96	5/16/96	5/22/96	5/22/96	5/22/96	5/22/96	
Compound (mg/kg)													
VOLATILES													
1,1,2,2 - Tetrachloroethane	0.270	<0.005	<0.30	<2.8	<0.008	<0.10	<0.010	0.42	<0.37	<0.006	<0.006	<0.006	21
Total Volatiles	0.744	<0.109	110	<56.6	0.456	31.6	4.90	29.1	39.6	<0.117	<0.112	<0.122	1000
cPAHs													
Benzo(a)anthracene	<0.713	<0.720	<0.786	<0.747	<1.02	<1.34	<1.31	<1.11	<0.978	<0.771	<0.737	<0.806	4.0
Benzo(b)fluoranthene	<0.713	<0.720	<0.786	<0.747	<1.02	<1.34	<1.31	<1.11	<0.978	<0.771	<0.737	<0.806	4.0
Benzo(k)fluoranthene	<0.713	<0.720	<0.786	<0.747	<1.02	<1.34	<1.31	<1.11	<0.978	<0.771	<0.737	<0.806	4.0
Benzo(a)pyrene	<0.66	<0.66	<0.66	<0.66	0.307	<0.66	<0.66	<0.66	<0.66	0.410	<0.66	<0.66	0.66
Chrysene	<0.713	<0.720	<0.786	<0.747	<1.02	<1.34	<1.31	<1.11	<0.978	<0.771	<0.737	<0.806	40.0
Dibenz(a,h)anthracene	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.771	<0.66	<0.66	0.66
Indeno(1,2,3-cd)pyrene	<0.713	<0.720	<0.786	<0.747	<1.02	<1.34	<1.31	<1.11	<0.978	<0.771	<0.737	<0.806	4.0
Total cPAHs	<0.713	<0.720	<0.786	<0.747	0.307	<1.34	<1.31	<1.11	<0.978	0.410	<0.737	<0.806	29.0
Total PCBs	1.49	0.578	0.988	0.532	0.930	0.486	0.598	<0.169	2.15	1.97	0.179	4.15	2
Total Lead	95.8	50.5	<11.9	26.5	186	193	376	<16.9	172	378	22.2	184	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

EPA Method 8240 - Volatile Organic Compounds (VOCs)

Sample LTI-01ED is a duplicate sample of LTI-01E

Shaded data indicates concentration exceeds remediation goal

TABLE A-4 (CONT'D)

GROUNDWATER COLLECTION TRENCHES

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	LTD-03E	LTF-03E	LTF-04E	LTF-05E	LTG-01E	LTG-02E	LTG-03E	Remediation Goals (mg/lg)
Laboratory Sample No.	D96-6313-11	D96-5798-4	D96-5798-5	D96-5798-6	D96-5798-1	D96-5798-2	D96-5798-3	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/12/96	5/29/96	5/29/96	5/29/96	5/29/96	5/29/96	5/29/96	
Compound (mg/kg)								
VOLATILES								
1,1,2,2 - tetrachloroethane	NA	<8.1	0.54	NA	<0.062	<0.007	<0.31	21
Total Volatiles	NA	200	18.0	NA	<1.24	0.097	7.34	1000
cPAHs								
Benzo(a)anthracene	<0.796	<5.37	<4.07	<5.78	<1.63	<0.975	<41.0	4
Benzo(b)fluoranthene	<0.796	<5.37	<4.07	<5.78	<1.63	<0.975	<41.0	4
Benzo(k)fluoranthene	<0.796	<5.37	<4.07	<5.78	<1.63	<0.975	<41.0	4
Benzo(a)pyrene	<0.199	<1.34	<1.02	<1.44	<0.408	<0.244	<10.2	0.66
Chrysene	<0.796	<5.37	<4.07	<5.78	<1.63	<0.975	<41.0	40
Dibenz(a,h)anthracene	<0.199	<1.34	<1.02	<1.44	<0.408	<0.244	<10.2	0.66
Indeno(1,2,3-cd)pyrene	<0.796	<5.37	<4.07	<5.78	<1.63	<0.975	<41.0	4
Total cPAHs	<0.796	<5.37	<4.07	<5.78	<1.63	<0.975	<41.0	29
Total PCBs	<0.121	5.69	NA	NA	<0.248	NA	<0.124	2
Total Lead	16.9	151	9.6	477	65.8	64.6	92.8	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8240 - Volatile Organic Compounds (VOCs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

Shaded data indicates concentration exceeds remediation goal

TABLE A-4 (CONT'D)

GROUNDWATER COLLECTION TRENCHES

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	LTD-01E	LTD-02E	LTK-01E	LTK-01ED	LTK-02E	Remediation Goals (mg/kg)
Laboratory Sample No.	D96-6157-4	D96-6157-5	D96-6157-1	D96-6157-2	D96-6157-3	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	
Date Collected	6/7/96	6/7/96	6/7/96	6/7/96	6/7/96	
Compound (mg/kg)						
VOLATILES						
1,1,2,2 - Tetrachloroethane	<39.0	168	<0.012	<0.010	<0.31	21
Total Volatiles	827	950	<0.238	0.304	30.2	1000
cPAHs						
Benzo(a)anthracene	<40.9	<4.09	<1.57	<1.28	<0.824	4.0
Benzo(b)fluoranthene	<40.9	<4.09	<1.57	<1.28	<0.824	4.0
Benzo(k)fluoranthene	<40.9	<4.09	<1.57	<1.28	<0.824	4.0
Benzo(a)pyrene	<10.2	<1.02	<0.393	<0.320	<0.206	0.66
Chrysene	<40.9	<4.09	<1.57	<1.28	<0.824	40.0
Dibenz(a,h)anthracene	<10.2	<1.02	<0.393	<0.320	<0.206	0.66
Indeno(1,2,3-cd)pyrene	<40.9	<4.09	<1.57	<1.28	<0.824	4.0
Total cPAHs	<40.9	<4.09	<1.57	<1.28	<0.824	29.0
Total PCBs	0.588	NA	NA	NA	NA	2
Total Lead	93.9	257	9.0	13.0	7.0	600

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8240 - Volatile Organic Compounds (VOCs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Shaded data indicates concentration exceeds remediation goal

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - Lead

Sample LTK-01ED is a duplicate of sample LTK-01E

TABLE A-4 (CONT'D)
AREA 1 DRUM EXCAVATION
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESDX-1A	ESDX-2A	ESDX-3A	ESDX-4A	ESDX-5A	ESDX-6A	Remediation Goals
Laboratory Sample No.	D97-8189-4	D97-8189-5	D97-8189-6	D97-8189-7	D97-8189-8	D97-8189-9	
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	Soil	Soil	
Date Collected	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	7/2/97	
Compound (mg/kg)							
VOLATILES							
1,1,2,2 - Tetrachloroethane	<0.5	<0.05	0.024	<0.5	<0.05	<0.05	21
Total Volatiles	31.9	7.99	0.124	18	8.47	8.69	1000

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8240 - Volatile Organic Compounds (VOCs)

TABLE A-5

SEDIMENT STOCKPILE ANALTYICAL RESULTS

TABLE A-5
NORTH DRAINAGE DITCH
SEDIMENT STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	ESDD-01-A	ESDD-02-A	ESDD-03-A	ESDD-04-A	Remediation Goals
Laboratory Sample No.					
Depth (feet)	1.5-2.0	1.5-2.0	1.5-2.0	1.5-2.0	
Type	Soil	Soil	Soil	Soil	
Date Collected					
Compound (mg/kg)					
VOLATILES					
1,1,2,2 - Tetrachloroethane	<4.9	<1.0	<0.10	<0.011	21
Total Volatiles	307	104	82.9	0.017	1000
cPAHs					
Benzo(a)anthracene	<12.9	<12.9	<13.6	<14.2	4.0
Benzo(b)fluoranthene	<12.9	<12.9	<13.6	<14.2	4.0
Benzo(k)fluoranthene	<12.9	<12.9	<13.6	<14.2	4.0
Benzo(a)pyrene	<3.23	<3.24	<3.41	<3.56	0.66
Chrysene	<12.9	<12.9	<13.6	<14.2	40.0
Dibenz(a,h)anthracene	<3.23	<3.24	<3.41	<3.56	0.66
Indeno(1,2,3-cd)pyrene	<12.9	<12.9	<13.6	<14.2	4.0
Total cPAHs	<12.9	<12.9	<13.6	<14.2	29.0
Total PCBs	160	245	512	7.28	2
Total Lead	639	584	1310	977	600

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
NA - Not Analyzed
EPA Method 8240 - Volatile Organic Compounds (VOCs)
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
Shaded data indicates concentration exceeds remediation goal
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

TABLE A-5 (CONT'D)

STORM SEWER SEDIMENT STOCKPILE ANALYTICAL RESULTS

UOP - AREA 2

REMEDIAL ACTION REPORT

Field Sample No.	SH-001-X	Remediation Goals (mg/kg)
Laboratory Sample No.	D97-1471-1	
Depth (feet)	1.5-2.0	
Type	Soil/Grab	
Date Collected	2/5/97	
Compound (mg/kg)		
VOLATILES		
1,1,2,2 - Tetrachloroethane	<10	21
Total VOCs	1690	1000
cPAHs		
Benzo(a)anthracene	6.12	4
Benzo(b)fluoranthene	7.23	4
Benzo(k)fluoranthene	<5.23	4
Benzo(a)pyrene	3.76	0.66
Chrysene	5.96	40
Dibenz(a,h)anthracene	<1.31	0.66
Indeno(1,2,3-cd)pyrene	<5.23	4
Total cPAHs	23.1	29
Total PCBs	54.1	2

NOTES:

All analyses performed by Inchcape Testing Services,

NJDEP Laboratory Certification No. 82716

EPA Mehod 8240 - Volatile Organic Compounds (VOCs)

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded Concentrations Exceed Remediation Goal

TABLE A-6

LTTD SOIL STOCKPILE ANALTYICAL RESULTS

TABLE A-6

LOW TEMPERATURE THERMAL TREATMENT OPERATIONS

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	TP-001	TP-002	TPI-003-A	TPO-003-A	TPI-003-B	TPO-003-B	TP-003-X	TP-004-X	TP-005-X	Treatment Goals (mg/kg)
Laboratory Sample No.	D96-13121-1	D96-13225-1	D96-13544-1 (VOCs) D96-13389-1 (cPAHs, PCBs)	D96-13389-2	D96-13544-2 (VOCs) D96-13389-3 (cPAHs, PCBs)	D96-13389-4	D96-13485-1	D96-13516-1	D96-13516-2	
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Type	Soil/Composite	Soil/Composite	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	11/15/96	11/16/96	11/20/96	11/20/96	11/20/96	11/21/96	11/22/96	11/23/96	11/23/96	
Compound (mg/kg)										
VOLATILES										
1,1,2,2-Tetrachloroethane	<0.006	16.9	<0.006	NA	<0.006	NA	<0.006	<0.005	<0.006	21
Total VOCs	0.011	465	<0.115	NA	<0.116	NA	0.024	0.023	0.023	100
cPAHs										
Benzo(a)anthracene	4.77	5.03	7.21	<1.45	4.27	<1.43	0.871	2.03	1.73	NA
Benzo(b)fluoranthene	7.39	6.19	6.18	2.52	6.15	<1.43	2.14	4.03	3.77	NA
Benzo(k)fluoranthene	2.93	3.57	3.94	<1.45	2.03	<1.43	1.79	2.52	2.09	NA
Benzo(a)pyrene	4.46	4.57	6.07	1.40	4.08	0.519	1.18	3.02	2.81	NA
Chrysene	4.41	4.95	6.38	<1.45	4.39	<1.43	1.05	2.13	1.78	NA
Dibenz(a,h)anthracene	1.39	1.39	1.16	0.403	0.811	<0.357	0.385	1.00	0.895	NA
Indeno(1,2,3-cd)pyrene	3.05	2.91	3.44	<1.45	2.45	<1.43	1.06	2.16	2.00	NA
Total cPAHs	28.4	28.6	34.4	4.32	24.1	0.519	8.48	16.9	15.1	<20
Total PCBs	6.59	9.22	14.2	0.600	14	0.346	0.483	1.05	1.43	<10

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

N/A - Not Applicable

NA - Not Analyzed

EPA Method 8240 - Volatile Organic Compounds (VOCs)

EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

Samples TPI-003-A and TPI-003-B were collected from untreated soil stockpile prior to treatment.

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

Shaded data indictaes concentration exceeds treatment goal

TABLE A-6 (CONT'D)
LOW TEMPERATURE THERMAL TREATMENT PLANT OPERATIONS
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	TP-006-X	TP-007-X	TP-008-X	TP-009-X	TP-010-X	TP-011-X	TP-011-D	TP-012-X	Treatment Goals (mg/kg)
Laboratory Sample No.	D96-13742-1	D96-13953-1	D96-14083-1	D96-14083-2	D96-14319-2	D96-14408-1	D96-14408-2	D96-14535-1	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	12/03/96	12/16/96	12/06/96	12/06/96	12/11/96	12/13/96	12/13/96	12/15/96	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	<0.714	2.62	2.67	2.67	5.48	6.59	5.71	1.07	N/A
Benzo(b)fluoranthene	<0.714	5.24	5.84	4.47	9.96	10.5	9.33	1.84	N/A
Benzo(k)fluoranthene	<0.714	2.07	2.36	1.65	3.62	5.20	4.46	1.08	N/A
Benzo(a)pyrene	<0.179	3.83	3.54	2.99	6.92	8.73	7.42	1.42	N/A
Chrysene	<0.714	2.85	2.64	2.59	5.32	6.96	6.10	1.12	N/A
Dibenz(a,h)anthracene	<0.179	0.727	0.770	0.528	1.24	1.85	1.50	0.342	N/A
Indeno(1,2,3-cd)pyrene	<0.714	2.01	2.17	1.60	3.64	5.29	4.32	1.08	N/A
Total cPAHs	<0.714	19.4	20.0	16.5	36.2	45.2	38.9	7.94	<20
Total PCBs	0.380	1.28	1.53	3.53	2.09	1.99	1.68	0.998	<10

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 8270 - carginogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Sample TP-011-D is a duplicate of sample TP-011-X
Shaded data indicates concentration exceeds treatment goal

TABLE A-6 (CONT'D)
LOW TEMPERATURE THERMAL TREATMENT PLANT OPERATIONS
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	TP-013-X	TP-014-X	TP-015-X	TP-015-D	TP-016-X	TP-017-X	TP-018-X	TP-018-D	Treatment Goals (mg/kg)
Laboratory Sample No.	D96-14535-2	D96-14593-1	D96-14694-1	D96-14694-2	D96-14798-1	D96-14798-2	D96-14798-3	D96-14798-4	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	
Date Collected	12/15/96	12/17/96	12/19/96	12/19/96	12/21/96	12/22/96	12/23/96	12/23/96	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	1.57	4.30	<1.43	<1.40	0.929	<0.729	0.807	<0.729	N/A
Benzo(b)fluoranthene	2.72	6.26	2.17	2.18	1.89	0.819	1.60	0.793	N/A
Benzo(k)fluoranthene	0.992	1.93	<1.43	<1.40	<0.708	<0.729	0.760	<0.729	N/A
Benzo(a)pyrene	2.07	4.84	1.24	1.42	1.26	0.674	1.18	0.703	N/A
Chrysene	1.66	3.67	<1.43	1.47	1.03	<0.729	0.910	<0.729	N/A
Dibenz(a,h)anthracene	0.460	1.31	0.386	0.509	0.376	0.209	0.364	0.209	N/A
Indeno(1,2,3-cd)pyrene	1.47	3.44	<1.43	1.52	1.06	<0.729	0.938	<0.729	N/A
Total cPAHs	10.9	25.8	3.81	7.10	6.55	1.70	6.56	1.70	<20
Total PCBs	2.90	1.49	0.738	0.683	1.04	0.440	0.148	0.150	<10

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Lab Certification No. 82716
N/A - Not Applicable
EPA Method 8270 - carginogenic Polycyclic Aromatice Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
Sample TP-015-D is a duplicate os sample TP-015-X
Sample TP-018-D is a duplicate of sample TP-018-X
Shaded data indicates concentration exceeds treatment goal

TABLE A-6 (CONT'D)
LOW TEMERATURE THERMAL TREATMENT PLANT OPERATIONS
SOIL STOCKPILE ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	TP-019-X	TP-020-X	RT-001-X	RT-002-X	RT-003-X	RT-004-X	Treatment Goals (mg/kg)
Laboratory Sample No.	D97-1091-1	D97-1189-1	D97-798-1	D97-1304-1	D97-1304-2	D96-1541-1	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	1/29/97	1/29/97	1/23/97	1/31/97	1/31/97	2/6/97	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	1.22	<0.733	<0.717	<0.704	4.31	5.05	N/A
Benzo(b)fluoranthene	1.84	1.37	<0.717	<0.704	7.39	7.49	N/A
Benzo(k)fluoranthene	1.23	<0.733	<0.717	<0.704	<3.56	2.21	N/A
Benzo(a)pyrene	1.87	1.14	0.385	<0.176	4.31	3.73	N/A
Chrysene	1.07	<0.733	<0.717	<0.704	4.50	4.39	N/A
Dibenz(a,h)anthracene	0.673	0.297	<0.179	<0.176	<0.890	1.13	N/A
Indeno(1,2,3-cd)pyrene	1.88	0.929	<0.717	<0.704	<3.56	2.71	N/A
Total cPAHs	9.78	3.73	0.385	<0.704	20.5	26.7	<20
Total PCBs	0.156	0.153	<0.109	<0.107	1.45	2.36	<10

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
EPA Method 8080 - Polychlorinated Biphenyls (PCBs)
RT = Retreated soil stockpile
Shaded data indicates concentration exceeds treatment goal

TABLE A-6 (CONT'D)

LOW TEMPERATURE THERMAL TREATMENT PLANT OPERATIONS

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	TP-021-X	TP-022-X	TP-023-X	TP-024-X	TP-025-X	TP-026-X	TP-027-X	TP-028-X	Treatment Goals (mg/kg)
Laboratory Sample No.	D97-1469-1	D97-1714-1	D97-1753-1	D97-1812-1	D97-1917-1	D97-1977-1	D97-2097-1	D97-2158-1	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	2/5/97	02/08/97	2/11/97	2/12/97	2/13/97	2/16/97	2/19/97	2/20/97	
Compound (mg/kg) cPAHs									
Benzo(a)anthracene	2.26	1.79	1.28	<0.735	2.06	0.927	<0.710	2.70	N/A
Benzo(b)fluoranthene	4.81	4.34.	2.85	1.25	4.67	1.74	1.53	6.06	N/A
Benzo(k)fluoranthene	1.96	1.25	0.985	<0.735	1.48	<0.717	<0.710	2.02	N/A
Benzo(a)pyrene	3.72	2.74	2.02	0.979	3.24	1.31	1.06	4.16	N/A
Chrysene	2.37	1.78	1.29	<0.735	1.95	1.00	0.733	3.08	N/A
Dibenzo(a,h)anthracene	0.99	0.634	0.407	0.264	0.671	0.402	0.384	1.13	N/A
Indeno(1,2,3-cd)pyrene	2.88	2.01	1.22	0.814	1.83	1.08	1.10	3.23	N/A
Total cPAHs	19.0	14.6	10.0	3.31	15.9	6.46	4.80	22.4	<20
Total PCBs	0.352	0.290	0.252	<0.111	0.338	0.220	0.189	0.242	<10

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

N/A - Not Applicable

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

RT = Retreated soil stockpile

Shaded data indicates concentration exceeds treatment goal

TABLE A-6 (CONT'D)

LOW TEMPERATURE THERMAL TREATMENT PLANT OPERATIONS

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	TP-029-XS	TP-031-X	RT-005-X	RT-006-X	RT-007-X	RT-008-X	Treatment Goals (mg/kg)
Laboratory Sample No.	D97-2268-2	D97-2372-1	D97-1714-2	D97-1917-2	D97-2268-1	D97-2433-1	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	2/23/97	2/26/97	2/9/97	2/13/97	2/21/97	2/27/97	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	3.97	3.92	<0.698	<0.737	5.81	8.49	N/A
Benzo(b)fluoranthene	7.39	9.55	0.765	1.36	8.07	11.9	N/A
Benzo(k)fluoranthene	2.62	<3.74	<0.698	<0.737	3.42	4.86	N/A
Benzo(a)pyrene	5.10	5.95	0.382	0.809	5.41	6.67	N/A
Chrysene	4.25	5.08	<0.698	<0.737	5.93	8.68	N/A
Dibenz(a,h)anthracene	1.29	1.52	0.174	0.199	1.26	1.52	N/A
Indeno(1,2,3-cd)pyrene	3.53	4.38	<0.698	<0.737	3.61	3.82	N/A
Total cPAHs	28.1	39.4	1.15	2.37	33.6	45.9	<20
Total PCBs	0.802	0.294	<0.106	0.136	2.45	7.52	<10

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

N/A - Not Applicable

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

RT - Retreated soil stockpile

Shaded data indicates concentration exceeds treatment goal

TABLE A-6 (CONT'D)

LOW TEMPERTURE THERMAL TREATMENT PLANT OPERATIONS

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	RT-009-X	TP-032-X	TP-033-X	TP-034-X	TP-030-X	TP-030-D	RT-011-X	Treatment Goals (mg/kg)
Laboratory Sample No.	D97-2813-1	D97-2511-1	D97-2557-1	D97-2737-1	D97-2306-1	D97-2306-4	D97-3113-1	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	3/7/97	3/1/97	3/4/97	3/6/97	2/25/97	2/25/97	3/14/97	
Compound (mg/kg) cPAHs								
Benzo(a)anthracene	1.55	1.87	0.967	<0.751	2.47	2.43	4.98	N/A
Benzo(b)fluoranthene	3.39	3.97	1.78	0.791	4.96	4.53	7.33	N/A
Benzo(k)fluoranthene	1.01	1.14	<0.752	<0.751	1.6	1.56	<3.67	N/A
Benzo(a)pyrene	1.46	2.54	1.32	0.511	3.36	3.44	4.27	N/A
Chrysene	2.1	2.01	1.06	<0.751	2.74	2.72	5.41	N/A
Dibenzo(a,h)anthracene	0.288	0.45	0.282	<0.188	0.984	0.926	<0.919	N/A
Indeno(1,2,3-cd)pyrene	0.944	1.45	0.773	<0.751	2.65	2.63	<3.67	N/A
Total cPAHs	10.7	13.5	6.18	1.3	18.8	18.3	21.9	<20
Total PCBs	1.46	0.525	0.26	0.278	0.453	0.463	1.6	<10

NOTES:

All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716

N/A - Not Applicable

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

RT = Retreated soil stockpile

Sample TP-030-D is a duplicate of sample TP-030-X

Shaded data indicates concentration exceeds treatment goal

TABLE A-6 (CONT'D)

LOW TEMPERTURE THERMAL TREATMENT PLANT OPERATIONS

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	TP-038-X	RT-010-X	TP-039-XS	RT-013-X	RT-014-X	TP-035-X	Treatment Goals (mg/kg)
Laboratory Sample No.	D97-3059-1	D97-2992-1	D97-3514-1	D97-3514--2	D97-3514-3	D97-2844-1	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	03/13/97	03/11/97	03/22/97	03/22/97	03/22/97	03/08/97	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	1.81	1.11	<1.43	6.35	5.77	<0.743	N/A
Benzo(b)fluoranthene	3.41	2.56	2.14	8.2	8.02	1.49	N/A
Benzo(k)fluoranthene	1.14	0.978	<1.43	4.85	5.91	<0.743	N/A
Benzo(a)pyrene	2.18	1.72	1.17	4.78	4.95	1.1	N/A
Chrysene	1.93	1.29	<1.43	6.82	6.52	0.803	N/A
Dibenz(a,h)anthracene	0.662	0.198	0.477	1.23	1.25	0.273	N/A
Indeno(1,2,3-cd)pyrene	1.76	1.37	<1.43	3.33	3.26	0.848	N/A
Total cPAHs	12.9	9.54	3.78	35.8	35.7	4.5	<20
Total PCBs	0.479	0.147	0.301	2.56	1.92	0.179	<10

NOTES:

All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716

N/A - Not Applicable

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

RT - Retreated soil stockpile

Sample TP-039-XS collected from stockpile containing 10% (by weight) of filter cake from thermal disorber water treatment plant

Shaded data indicates concentration exceeds treatment goal

TABLE A-6 (CONT'D)

LOW TEMPERTURE THERMAL TREATMENT PLANT OPERATIONS

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	TP-036-X	TP-037-X	TP-040-X	RT-015-X	RT-012-X	RT-016-X	Treatment Goals (mg/kg)
Laboratory Sample No.	D97-2844-2	D97-2844-3	D97-3666-1	D97-3605-1	D97-3416-3	D97-3843-1	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	03/08/97	03/08/97	03/26/97	03/24/97	03/20/97	03/31/97	
Compound (mg/kg) cPAHs							
Benzo(a)anthracene	1.65	<0.738	0.784	4.26	1.6	4.58	N/A
Benzo(b)fluoranthene	2.8	1.3	1.92	9.14	2.43	7.01	N/A
Benzo(k)fluoranthene	1.46	<0.738	1.26	3.76	1.22	3.9	N/A
Benzo(a)pyrene	2.26	0.991	1.38	4.17	1.65	3.82	N/A
Chrysene	1.84	<0.738	1.09	5.1	1.71	4.58	N/A
Dibenz(a,h)anthracene	0.485	0.298	0.268	0.959	0.494	0.78	N/A
Indeno(1,2,3-cd)pyrene	1.49	0.845	0.908	2.45	1.13	2.28	N/A
Total cPAHs	12	3.43	7.61	29.8	10.2	27	<20
Total PCBs	0.397	0.14	<0.109	0.825	1.28	1.41	<10

NOTES:

All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716

N/A - Not Applicable

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

RT - Retreated soil stockpile

Shaded data indicates concentration exceeds treatment goal

TABLE A-6 (CONT'D)

LOW TEMPERTURE THERMAL TREATMENT PLANT OPERATIONS

SOIL STOCKPILE ANALYTICAL RESULTS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	TP-041-X	RT-017-X	RT-018-X	RT-019-X	TP-042-X	Treatment Goals (mg/kg)
Laboratory Sample No.	D97-3843-2	D97-4066-1	D97-4066-2	D97-4161-2	D97-3966-1	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	03/31/97	04/03/97	04/03/97	04/04/97	04/02/97	
Compound (mg/kg) cPAHs						
Benzo(a)anthracene	<1.65	3.13	1.68	1.86	1.61	N/A
Benzo(b)fluoranthene	2.27	6.33	3.99	4.25	3.54	N/A
Benzo(k)fluoranthene	<1.65	2.38	<1.45	2.32	2.16	N/A
Benzo(a)pyrene	1.8	3.07	1.77	2.58	2.69	N/A
Chrysene	<1.65	3.71	2.22	2.38	1.51	N/A
Dibenz(a,h)anthracene	<0.414	0.947	0.521	0.602	0.725	N/A
Indeno(1,2,3-cd)pyrene	<1.65	2.64	1.46	1.6	2.17	N/A
Total cPAHs	4.07	22.2	11.7	15.6	14.4	<20
Total PCBs	0.236	0.561	0.400	0.347	0.295	<10

NOTES:

All analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716

N/A - Not Applicable

EPA Method 8270 - carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

RT - Retreated soil stockpile

Shaded data indicates concentration exceeds treatment goal

TABLE A-7
ANALYTICAL RESULTS
MONITORING WELLS DOWNGRADIENT OF TEMPORAY WTP

TABLE A-7
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-26I	MW-36	MW-36D
Lab Sample No.	D96-5416-1	D96-5416-2	D96-5416-3
Depth (feet)	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous
Date Collected	5/17/96	5/17/96	5/17/96
Compound (ug/l) VOLATILES			
Acrolein	NA	NA	NA
Acrylonitrile	<50.0	<50.0	<50.0
Benzene	<4.40	<4.40	<4.40
Bromoform	<4.70	<4.70	<4.70
Carbon Tetrachloride	<2.80	<2.80	<2.80
Chlorobenzene	<5.0	<5.0	23.0
Chlorodibromomethane	<2.20	<2.20	<2.20
Chloroethane	<2.60	<2.60	<2.60
Chloroform	<1.60	<1.60	<1.60
Dichlorobromomethane	<2.20	<2.20	<2.20
1,1 - Dichloroethane	<4.70	<4.70	<4.70
1,2 - Dichloroethane	<2.80	<2.80	<2.80
1,1 - Dichloroethylene	<2.80	<2.80	<2.80
1,2 - Dichloropropane	<5.0	<5.0	<5.0
1,3 - Dichloropropylene	<5.0	<5.0	<5.0
Ethylbenzene	<7.20	<7.20	<7.20
Methyl Bromide	<2.00	<2.00	<2.00
Methyl Chloride	<3.00	<3.00	<3.00
1,1,2,2 - Tetrachloroethane	<6.90	<6.90	<6.90
Tetrachloroethylene	<4.10	<4.10	<4.10
Toluene	<6.0	<6.0	62.3
1,2 - Trans - Dichloroethylene	<1.60	<1.60	<1.60
1,1,1 - Trichloroethane	<3.80	<3.80	<3.80
Trichloroethylene	<1.90	<1.90	<1.90
Vinyl Chloride	<3.4	<3.4	<3.4
Total Non-Targeted Volatiles	NA	NA	NA
METALS			
Lead	4.4	1.1	<2.0
Arsenic	<2.2	6.7	11.1

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

N/A - Not Applicable — EPA Method 624 - Volatile Organic Compounds (VOCs)

NA - Not Analyzed — EPA Method 7421 - Metals

Sample MW-36D is a duplicate of sample MW-36

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-26I	MW-36	MW-36D
Lab Sample No.	D96-5416-1	D96-5416-2	D96-5416-3
Depth (feet)	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous
Date Collected	5/17/96	5/17/96	5/17/96
Compound (ug/l)			
BNAs			
Acenaphthylene	<3.5	<3.5	<3.5
Anthracene	<1.9	<1.9	<1.9
Benzidine	<5.7	<5.7	<5.7
Benzo(a)anthracene	<7.8	<7.8	<7.8
Benzo(a)pyrene	<2.5	<2.5	<2.5
Benzo(b)fluoranthene	<4.8	<4.8	<4.8
Benzo(ghi)perylene	<4.1	<4.1	<4.1
Benzo(k)fluoranthene	<2.5	<2.5	<2.5
Bis(2-Chloroethyl)ether	<5.7	<5.7	<5.7
Bis(2-Chloroisopropyl)ether	<5.7	<5.7	<5.7
Bis(2-Ethylhexyl)phthalate	<2.5	<2.5	<2.5
Butyl Benzyl Phthalate	<2.5	<2.5	<2.5
Chrysene	<2.5	<2.5	<2.5
Dibenzo(a,h)anthracene	<2.5	<2.5	<2.5
1,2 - Dichlorobenzene	<1.9	12.0	19.4
1,3 - Dichlorobenzene	<1.9	<1.9	<1.9
1,4 - Dichlorobenzene	<4.4	<4.4	<4.4
3,3' - Dichlorobenzidine	<16.5	<16.5	<16.5
Diethyl Phthalate	<1.9	<1.9	<1.9
Dimethyl Phthalate	<1.8	<1.8	<1.8
Di-N-Butyl Phthalate	<2.5	<2.5	<2.5
2,4 - Dinitrotoluene	<5.7	<5.7	<5.7
2,6 - Dinitrotoluene	<1.9	<1.9	<1.9
Fluoranthene	<2.2	<2.2	<2.2
Fluorene	<1.9	<1.9	<1.9
Hexachlorobenzene	<1.9	<1.9	<1.9
Hexachlorobutadiene	<0.9	<0.9	<0.9
Hexachlorocyclopentadiene	<5.0	<5.0	<5.0
Hexachloroethane	<1.6	<1.6	<1.6

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
Sample MW-36D is a duplicate of sample MW-36
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-26I	MW-36	MW-36D
Lab Sample No.	D96-5416-1	D96-5416-2	D96-5416-3
Depth (feet)	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous
Date Collected	5/17/96	5/17/96	5/17/96
Compound (ug/l)			
BNAs (Cont'd)			
Indeno(1,2,3-cd)pyrene	<3.7	<3.7	<3.7
Isophorone	<2.2	<2.2	<2.2
Naphthalene	<1.8	<1.8	<1.8
Nitrobenzene	<1.9	<1.9	<1.9
N-Nitrosodimethylamine	<5.0	<5.0	<5.0
N-Nitrosodiphenylamine	<1.9	<1.9	<1.9
Pentachlorobenzene	NA	NA	NA
Phenanthrene	<5.4	<5.4	<5.4
Pyrene	<1.9	<1.9	<1.9
1,2,4,5 - Tetrachlorobenzene	NA	NA	NA
1,2,4 - Trichlorobenzene	<1.9	<1.9	<1.9
2 - Chlorophenol	<3.3	<3.3	<3.3
2,4 - Dichlorophenol	NA	NA	NA
2,4 - Dimethylphenol	<2.7	<2.7	<2.7
4,6 - Dinitro-O-Cresol	<24.0	<24.0	<24.0
2,4-Dinitrophenol	<42.0	<42.0	<42.0
2-Nitrophenol	<3.8	<3.8	<3.8
4-Nitrophenol	<3.8	<3.8	<3.8
Pentachlorophenol	<50.0	<50.0	<50.0
Phenol	<1.5	<1.5	<1.5
2,4,6-Trichlorophenol	<2.7	<2.7	<2.7
Total non-targeted BNs	NA	NA	NA
PCBs			
Aroclor 1016	<0.50	<0.50	<0.50
Aroclor 1221	<0.50	<0.50	<0.50
Aroclor 1232	<0.50	<0.50	<0.50
Aroclor 1242	<0.50	<0.50	<0.50
Aroclor 1248	<0.50	<0.50	<0.50
Aroclor 1254	<0.50	<0.50	<0.50
Aroclor 1260	<0.50	<0.50	<0.50

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
EPA Method 8080 - Polychlorinated Biphenyls (PCBs) NA - Not Analyzed
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)
Sample MW-36D is a duplicate of sample MW-36

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-102-01
Lab Sample No.	D96-9025-2
Depth (feet)	N/A
Type	Aqueous
Date Collected	8/14/96
Compound (ug/l)	
VOLATILES	
Acetone	<50.0
Acrolein	<50.0
Acrylonitrile	<50.0
Benzene	<4.40
Bromoform	<4.70
Carbon Tetrachloride	<2.80
Chlorobenzene	<5.0
Chlorodibromomethane	<2.20
Chloroethane	<2.60
Chloroform	<1.60
cis-1,2-Dichloroethene	<1.60
Dichlorobromomethane	<2.20
1,1 - Dichloroethane	<4.70
1,2 - Dichloroethane	<2.80
1,1 - Dichloroethylene	<2.80
1,2 - Dichloropropane	<5.0
1,3 - Dichloropropylene	<5.0
Ethylbenzene	<7.20
Methyl Bromide (Bromomethane)	<2.00
Methyl Chloride	<2.80
1,1,2,2 - Tetrachloroethane	<6.90
Tetrachloroethylene	<4.10
Toluene	<6.0
1,2 - Trans - Dichloroethylene	<1.60
1,1,1 - Trichloroethane	<3.80
Trichloroethylene	<1.90
Vinyl Chloride	<3.4
Total Non-Targeted Volatiles	<10.0
METALS	
Lead	41.8
Arsenic	9.44

NOTES:
All analyses performed by Inchcape Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 624 - Volatile Organic Compounds (VOCs)
EPA Method 239.2 - Lead
EPA Method 206.2 - Arsenic

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-102-01
Lab Sample No.	D96-9025-2
Depth (feet)	N/A
Type	Aqueous
Date Collected	8/14/96
Compound (ug/l)	
BNAs	
Acenaphthylene	<3.5
Anthracene	<1.9
Benzidine	<5.7
Benzo(a)anthracene	<7.8
Benzo(a)pyrene	<2.5
Benzo(b)fluoranthene	<4.8
Benzo(ghi)perylene	<4.1
Benzo(k)fluoranthene	<2.5
Bis(2-Chloroethyl)ether	<5.7
Bis(2-Chloroisopropyl)ether	<5.7
Bis(2-Ethylhexyl)phthalate	<2.5
Butyl Benzyl Phthalate	<2.5
Chrysene	<2.5
Dibenzo(a,h)anthracene	<2.5
1,2 - Dichlorobenzene	<1.9
1,3 - Dichlorobenzene	<1.9
1,4 - Dichlorobenzene	3.2(J)
3,3' - Dichlorobenzidine	<16.5
Diethyl Phthalate	<1.9
Dimethyl Phthalate	<1.8
Di-N-Butyl Phthalate	1.6(J)
2,4 - Dinitrotoluene	<5.7
2,6 - Dinitrtoluene	<1.9
Fluoranthene	<2.2
Fluorene	<1.9
Hexachlorobenzene	<1.9
Hexachlorobutadiene	<0.9
Hexachlorocyclopentadiene	<5.0
Hexachloroethane	<1.6
Indeno(1,2,3-cd)pyrene	<3.7
Isophorone	<2.2
Naphthalene	<1.8

NOTES:
All analyses performed by Inchcape Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
(J) - Estimated Concentration
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-102-01
Lab Sample No.	D96-9025-2
Depth (feet)	N/A
Type	Aqueous
Date Collected	8/14/96
Compound (ug/l)	
BNAs (Cont'd)	
Nitrobenzene	<1.9
N-Nitrosodimethylamine	<5.0
N-Nitrosodiphenylamine	<1.9
Pentachlorobenzene	<10.0
Phenanthrene	<5.4
Pyrene	<1.9
1,2,4,5 - Tetrachlorobenzene	<10.0
1,2,4 - Trichlorobenzene	<1.9
2 - Chlorophenol	<3.3
2,4 - Dichlorophenol	<2.7
2,4 - Dimethylphenol	<2.7
4,6 - Dinitro-O-Cresol	<24.0
2,4 - Dinitrophenol	<42.0
2 - Nitrophenol	<3.8
4 - Nitrophenol	<3.8
Pentachlorophenol	<3.5
Phenol	<1.5
2,4,6 - Trichlorophenol	<2.7
Total Non-Targeted BNAs	<10.0
PCBs	
Aroclor 1016	<0.50
Aroclor 1221	<0.50
Aroclor 1232	<0.50
Aroclor 1242	<0.50
Aroclor 1248	<0.50
Aroclor 1254	<0.50
Aroclor 1260	<0.50

NOTES:
All analyses performed by Inchcape Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 608 - Polychlorinated Biphenyls (PCBs)
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-101-01
Lab Sample No.	D96-13392-1
Depth (feet)	N/A
Type	Aqueous
Date Collected	11/21/96
Compound (ug/l)	
VOLATILES	
Acetone	<50.0
Acrolein	<50.0
Acrylonitrile	<50.0
Benzene	<4.40
Bromoform	<4.70
Carbon Tetrachloride	<2.80
Chlorobenzene	<5.00
Chlorodibromomethane	<2.20
Chloroethane	<2.60
Chloroform	<1.60
cis-1,2-Dichloroethene	<1.60
Dichlorobromomethane	<2.20
1,1 - Dichloroethane	<4.70
1,2 - Dichloroethane	<2.80
1,1 - Dichloroethylene	<2.80
1,2 - Dichloropropane	<5.00
1,3 - Dichloropropylene	<5.00
Ethylbenzene	<7.20
Methyl Bromide (Bromomethane)	<2.00
Methyl Chloride	<2.80
1,1,2,2 - Tetrachloroethane	<6.90
Tetrachloroethylene	<4.10
Toluene	<6.00
1,2 - Trans - Dichloroethylene	<1.60
1,1,1 - Trichloroethane	<3.80
1,1,2 Trichloroethane	<5.00
Trichloroethylene	<1.90
Vinyl Chloride	<3.4
Total Non-Targeted Volatiles	28.7
METALS	
Lead	1.84
Arsenic	<0.9

NOTES:
All analyses performed by Inchcape Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 624 - Volatile Organic Compounds (VOCs)
EPA Method 206.2 - Arsenic EPA Method 239.2 - Lead

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-101-01
Lab Sample No.	D96-13392-1
Depth (feet)	N/A
Type	Aqueous
Date Collected	11/21/96
Compound (ug/l) BNAs	
Acenaphthylene	<3.9
Anthracene	<2.1
Benzidine	<6.3
Benzo(a)anthracene	<8.7
Benzo(a)pyrene	<2.8
Benzo(b)fluoranthene	<5.3
Benzo(ghi)perylene	<4.6
Benzo(k)fluoranthene	<2.8
Bis(2-Chloroethyl)ether	<6.3
Bis(2-Chloroisopropyl)ether	<6.3
Bis(2-Ethylhexyl)phthalate	<2.8
Butyl Benzyl Phthalate	<2.8
Chrysene	<2.8
Dibenzo(a,h)anthracene	<2.8
1,2 - Dichlorobenzene	<2.1
1,3 - Dichlorobenzene	<2.1
1,4 - Dichlorobenzene	<4.9
3,3' - Dichlorobenzidine	<18.3
Diethyl Phthalate	<2.1
Dimethyl Phthalate	<2.0
Di-n-Butyl Phthalate	<2.8
2,4 - Dinitrotoluene	<6.3
2,6 - Dinitrtoluene	<2.1
Fluoranthene	<2.4
Fluorene	<2.1
Hexachlorobenzene	<2.1
Hexachlorobutadiene	<1.0
Hexachlorocyclopentadiene	<5.6
Hexachloroethane	<1.8
Indeno(1,2,3-cd)pyrene	<4.1
Isophorone	<2.4

NOTES:
All analyses performed by Inchcape Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-101-01
Lab Sample No.	D96-13392-1
Depth (feet)	N/A
Type	Aqueous
Date Collected	11/21/96
Compound (ug/l) BNAs (Cont'd)	
Naphthalene	2.0
Nitrobenzene	<2.1
N-Nitrosodimethylamine	<5.6
N-Nitrosodiphenylamine	<2.1
Pentachlorobenzene	<11.1
Phenanthrene	<6.0
Pyrene	<2.1
1,2,4,5 - Tetrachlorobenzene	<11.1
1,2,4 - Trichlorobenzene	<2.1
2 - Chlorophenol	<3.7
2,4 - Dichlorophenol	<3.0
2,4 - Dimethylphenol	<3.0
4,6 - Dinitro-O-Cresol	<26.6
2,4 - Dinitrophenol	<46.6
2 - Nitrophenol	<4.2
4 - Nitrophenol	<4.2
Pentachlorophenol	<3.9
Phenol	<1.7
2,4,6 - Trichlorophenol	<3.0
Total Non-Targeted BNAs	55.1
PCBs	
Aroclor 1016	0.5
Aroclor 1221	0.5
Aroclor 1232	0.5
Aroclor 1242	0.5
Aroclor 1248	0.5
Aroclor 1254	0.5
Aroclor 1260	0.5

NOTES:
All analyses performed by Inchcape Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 608 - Polychlorinated Biphenyls (PCBs)
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-100-01
Lab Sample No.	D97-2373-1
Depth (feet)	N/A
Type	Aqueous
Date Collected	02/26/97
Compound (ug/l)	
VOLATILES	
Acetone	<50.0
Acrolein	<50.0
Acrylonitrile	<50.0
Benzene	<4.40
Bromoform	<4.70
Carbon Tetrachloride	<2.80
Chlorobenzene	<5.00
Chlorodibromomethane	<2.20
Chloroethane	<2.60
Chloroform	<1.60
cis-1,2-Dichloroethene	<1.60
Dichlorobromomethane	<2.20
1,1 - Dichloroethane	<4.70
1,2 - Dichloroethane	<2.80
1,1 - Dichloroethylene	<2.80
1,2 - Dichloropropane	<5.00
1,3 - Dichloropropylene	<5.00
Ethylbenzene	<7.20
Methyl Bromide (Bromomethane)	<2.00
Methyl Chloride (Chloromethane)	<3.00
1,1,2,2 - Tetrachloroethane	<6.90
Tetrachloroethylene	<4.10
Toluene	<6.00
1,2 - Trans - Dichloroethylene	<1.60
1,1,1 - Trichloroethane	<3.80
Trichloroethylene	<1.90
Vinyl Chloride	<3.4
Total Non-Targeted Volatiles	1150.4
METALS	
Lead	176
Arsenic	4.5

NOTES:
All analyses performed by Inchcape Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 624 - Volatile Organic Compounds (VOCs)
EPA Method 239.2 - Lead
EPA Method 206.2 - Arsenic

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-100-01
Lab Sample No.	D97-2373-1
Depth (feet)	N/A
Type	Aqueous
Date Collected	2/26/97
Compound (ug/l) BNAs	
Acenaphthylene	<3.5
Anthracene	<1.9
Benzidine	<5.7
Benzo(a)anthracene	<7.8
Benzo(a)pyrene	<2.5
Benzo(b)fluoranthene	<4.8
Benzo(ghi)perylene	<4.1
Benzo(k)fluoranthene	<2.5
Bis(2-Chloroethyl)ether	<5.7
Bis(2-Chloroisopropyl)ether	<5.7
Bis(2-Ethylhexyl)phthalate	10.1
Butyl Benzyl Phthalate	<2.5
Chrysene	<2.5
Dibenzo(a,h)anthracene	<2.5
1,2 - Dichlorobenzene	<1.9
1,3 - Dichlorobenzene	<1.9
1,4 - Dichlorobenzene	<4.4
3,3' - Dichlorobenzidine	<16.5
Diethyl Phthalate	<1.9
Dimethyl Phthalate	<1.8
Di-n-Butyl Phthalate	<2.5
2,4 - Dinitrotoluene	<5.7
2,6 - Dinitrotoluene	<1.9
Fluoranthene	<2.2
Fluorene	<1.9
Hexachlorobenzene	<1.9
Hexachlorobutadiene	<0.9
Hexachlorocyclopentadiene	<5.0
Hexachloroethane	<1.6
Indeno(1,2,3-cd)pyrene	<3.7
Isophorone	<2.2

NOTES:
All analyses performed by Inchcape Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-100-01
Lab Sample No.	D97-2373-1
Depth (feet)	N/A
Type	Aqueous
Date Collected	2/26/97
Compound (ug/l)	
BNAs	
Naphthalene	<1.8
Nitrobenzene	<1.9
N-Nitrosodimethylamine	<5.0
N-Nitrosodiphenylamine	<1.9
Pentachlorobenzene	<10.0
Phenanthrene	<5.4
Pyrene	<1.9
1,2,4,5 - Tetrachlorobenzene	<10.0
1,2,4 - Trichlorobenzene	<1.9
2 - Chlorophenol	<3.3
2,4 - Dichlorophenol	<2.7
2,4 - Dimethylphenol	<2.7
4,6 - Dinitro-O-Cresol	<24.0
2,4 - Dinitrophenol	<42.0
2 - Nitrophenol	<3.8
4 - Nitrophenol	<3.8
Pentachlorophenol	<3.5
Phenol	<1.5
2,4,6 - Trichlorophenol	<2.7
Total Non-Targeted BNAs	0
PCBs	
Aroclor 1016	<0.50
Aroclor 1221	<0.50
Aroclor 1232	<0.50
Aroclor 1242	<0.50
Aroclor 1248	<0.50
Aroclor 1254	<0.50
Aroclor 1260	<0.50

NOTES:
All analyses performed by Inchcape Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)
EPA Method 608 - Polychlorinated Biphenyls (PCBs)

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-100 (PW 100)
Lab Sample No.	D98-2481-1
Depth (feet)	N/A
Date Collected	3/27/98
Compound (ug/l) VOLATILES	
Acetone	NA
Acrolein	<5.0
Acrylonitrile	<5.0
Benzene	<5.0
Bromoform	<5.0
Carbon Tetrachloride	<5.0
Chlorobenzene	<5.0
Chlorodibromomethane	<5.0
Chloroethane	<10.0
Chloroform	<5.0
cis-1,2-Dichloroethene	<5.0
Dichlorobromomethane	<5.0
1,1-Dichloroethane	<5.0
1,2-Dichloroethane	<5.0
1,1-Dichloroethylene	<5.0
1,2-Dichloropropane	<5.0
1,3-Dichloropropylene	NA
Ethylbenzene	<5.0
Methyl Bromide (Bromomethane)	<10.0
Methyl Chloride (Chloromethane)	<10.0
1,1,2,2-Tetrachloroethane	<5.0
Tetrachloroethylene	<5.0
Toluene	<5.0
1,2-Trans-Dichloroethylene	<5.0
1,1,1-Trichloroethane	<5.0
Trichloroethylene	<5.0
Vinyl Chloride	<10.0
METALS	
Arsenic	30.0
Lead	4.0

NOTES:
Analyses performed by Intertek Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
NA- Not Analyzed
EPA Method 624 - Volatile Organic Compounds (VOCs)
EPA Method 239.2 - Lead
EPA Method 206.2 - Arsenic
Sample MW-100 was incorrectly labelled PW 100

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-100 (PW 100)
Lab Sample No.	D98-2481-1
Depth (feet)	N/A
Date Collected	3/27/98
Compound (ug/l) BNAs	
Acenaphthylene	<3.5
Anthracene	<1.9
Benzidine	<5.7
Benzo(a)anthracene	<7.8
Benzo(a)pyrene	<2.5
Benzo(b)fluoranthene	<4.8
Benzo(ghi)perylene	<4.1
Benzo(k)fluoranthene	<2.5
Bis(2-Chloroethyl)ether	<5.7
Bis(2-Chloroisopropyl)ether	<5.7
Bis(2-Ethylhexyl)phthalate	<2.5
Butyl Benzyl Phthalate	<2.5
Chrysene	<2.5
Dibenzo(a,h)anthracene	<2.5
1,2 - Dichlorobenzene	<1.9
1,3 - Dichlorobenzene	<1.9
1,4 - Dichlorobenzene	<4.4
3,3' - Dichlorobenzidine	<16.5
Diethyl Phthalate	<1.9
Dimethyl Phthalate	<1.8
Di-n-Butyl Phthalate	<2.5
2,4 - Dinitrotoluene	<5.7
2,6 - Dinitrtoluene	<1.9
Fluoranthene	<2.2
Fluorene	<1.9
Hexachlorobenzene	<1.9
Hexachlorobutadiene	<0.9
Hexachlorocyclopentadiene	<5.0
Hexachloroethane	<1.6
Indeno(1,2,3-cd)pyrene	<3.7

NOTES:
Analyses performed by Intertek Testing Services;
NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)
Sample MW-100 was incorrectly labelled PW 100

TABLE A-7 (CONT'D)
MONITORING WELLS DOWNGRADIENT OF TEMPORARY WTP DISCHARGE
ANALYTICAL RESULTS
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-100 (PW 100)
Lab Sample No.	D98-2481-1
Depth (feet)	N/A
Date Collected	3/27/98
Compound (ug/l)	
BNAs	
Isophorone	<2.2
Naphthalene	<1.8
Nitrobenzene	<1.9
N-Nitrosodimethylamine	<5.0
N-Nitrosodiphenylamine	<1.9
Pentachlorobenzene	<10.0
Phenanthrene	<5.4
Pyrene	<1.9
1,2,4,5 - Tetrachlorobenzene	<10.0
1,2,4 - Trichlorobenzene	<1.9
2 - Chlorophenol	<3.3
2,4 - Dichlorophenol	<2.7
2,4 - Dimethylphenol	<2.7
4,6 - Dinitro-O-Cresol	<24.0
2,4 - Dinitrophenol	<42.0
2 - Nitrophenol	<3.8
4 - Nitrophenol	<3.8
Pentachlorophenol	<3.5
Phenol	<1.5
2,4,6 - Trichlorophenol	<2.7
PCBs	
Aroclor 1016	<1.00
Aroclor 1221	<2.00
Aroclor 1232	<2.00
Aroclor 1242	<2.00
Aroclor 1248	<2.00
Aroclor 1254	<2.00
Aroclor 1260	<1.00

NOTES:
Analyses performed by Intertek Testing Services;
NJDEP Laboratory Certification No. 82716
EPA Method 608 - Polychlorinated Biphenyls (PCBs)

TABLE A-8

GROUNDWATER ANALYTICAL RESULTS

TABLE A-8
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(1)-01	LS-3(1)-02	LS-3(1)-02	LS-3(1)-04	LS-3(1)-04D
Lab Sample No.	D97-4155-5	D98-3166-5	D98-3810-8	I607-92993	I607-92994
Depth (feet)	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	04/04/97	4/22/98	5/18/98	10/28/98	10/28/98
Compound (ug\l)	(1)(*)	(1)(*)	(1)(*)	(2)(**)	(2)(**)
VOLATILES					
Chloromethane	<10.0	<100(D)	<50.0(D)	<50	<50
Bromomethane	<10.0	<100(D)	<50.0(D)	<50	<50
Vinyl chloride	<10.0	<100(D)	<50.0(D)	<50	<50
Chloroethane	<10.0	<100(D)	<50.0(D)	<50	<50
Methylene chloride	<5.0	16(J)(D)	<25.0(D)	<30	<30
Acetone	<100.0	190(J)(D)	<500(D)	<50	<50
Carbon disulfide	<5.0	<50.0(D)	<25.0(D)	<50	<50
1,1-Dichloroethene	<5.0	<50.0(D)	<25.0(D)	<20	<20
1,1-Dichloroethane	<5.0	<50.0(D)	<25.0(D)	<50	<50
cis -1,2-Dichloroethene	<5.0	1040(D)	<25.0(D)	<50	<50
trans-1,2-Dichloroethene	<5.0	34(J)(D)	<25.0(D)	<50	<50
Chloroform	<5.0	<50.0(D)	<25.0(D)	<50	<50
1,2-Dichloroethane	<5.0	<50.0(D)	<25.0(D)	<20	<20
2-Butanone	<50.0	<500(D)	<250(D)	<50	<50
1,1,1-Trichloroethane	<5.0	<50.0(D)	<25.0(D)	<50	<50
Carbon tetrachloride	<5.0	<50.0(D)	<25.0(D)	<20	<20
Bromodichloromethane	<5.0	<50.0(D)	<25.0(D)	<10	<10
1,2-Dichloropropane	<5.0	<50.0(D)	<25.0(D)	<10	<10
cis-1,3-Dichloropropene	<5.0	<50.0(D)	<25.0(D)	<50	<50
Trichloroethene	<5.0	<50.0(D)	<25.0(D)	<10	<10
Chlorodibromomethane	<5.0	<50.0(D)	<25.0(D)	<50	<50
1,1,2-Trichloroethane	<5.0	<50.0(D)	<25.0(D)	<30	<30
Benzene	48.4	931(D)	103(D)	29.0	42.0
trans-1,3-Dichloropropene	<5.0	<50.0(D)	<25.0(D)	<50	<50
Bromoform	<5.0	<50.0(D)	<25.0(D)	<40	<40
4-Methyl-2-Pentanone	<50.0	<500(D)	<250(D)	<50	<50
2-Hexanone	<50.0	<500(D)	<250(D)	<50	<50
Tetrachloroethene	<5.0	<50.0(D)	<25.0(D)	<10	<10
Toluene	11.3	106(D)	<25.0(D)	<50	<50
1,1,2,2-Tetrachloroethane	<5.0	<50.0(D)	<25.0(D)	<10	<10
Chlorobenzene	293	140(D)	756(D)	900.0	1400.0
Ethylbenzene	<5.0	49(J)(D)	<25.0(D)	<40	<40
Styrene	<5.0	<50.0(D)	<25.0(D)	<50	<50
Total Xylenes	<10.0	58(J)(D)	<50.0(D)	<50	<50
Total VOCs	352.7	1628(D)	859(D)	929	1442
METALS					
Arsenic	7.9	1.0(B)	2.0(B)	<3.8	11.3
Lead	25.5	2.3	15.5	<2.5	2.7

NOTES:
(*) - Analyses performed by Intertek Testing Services. NJDEP Laboratory Certification No. 82716
(**) - Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(I) - EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) - EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(D) - Indicates all compounds in an analysis at a secondary dilution.
(B) - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.
Sample LS-3(1)-04D is a duplicate of sample LS-3(1)-04

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(1)-01	LS-3(1)-02	LS-3(1)-02	LS-3(1)-04	LS-3(1)-04D
Lab Sample No.	D97-4155-5	D98-3166-5	D98-3810-8	I607-92993	I607-92994
Depth (feet)	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	04/04/97	4/22/98	5/18/98	10/28/98	10/28/98
Compound (ug/l) BNAs	(*)	(*)	(*)	(**)	(**)
N-Nitrosodimethylamine	<5.0	<5.0	<5.0	<0.7	<0.7
Phenol	<1.5	4.4	8.8	<1.4	<1.4
Bis(2-chloroethyl)ether	<5.7	<5.7	<6.0	<1.0	<0.9
2-Chlorophenol	<3.3	1.8(J)	2.8(J)	<3.1	<3.0
1,3-Dichlorobenzene	<1.9	<1.9	<2.0	<1.1	<1.1
1,4-Dichlorobenzene	<4.4	<4.4	<4.4	<1.2	<1.2
1,2-Dichlorobenzene	5.5	451(D)	747(D)	200	250
Bis(2-chloroisopropyl)ether	<5.7	<5.7	<6.0	<0.9	<0.9
Hexachloroethane	<1.6	<1.6	<2.0	<0.9	<0.8
Nitrobenzene	<1.9	<1.9	<2.0	<1.1	<1.0
Isophorone	<2.2	<2.2	<2.2	<0.9	<0.9
2,4-Dimethylphenol	<2.7	<2.7	<3.0	<3.1	<3.0
2-Nitrophenol	<3.8	<3.8	<4.0	<3.0	<2.9
2,4-Dichlorophenol	<2.7	2.2(J)	2.7	<3.1	<3.0
1,2,4-Trichlorobenzene	<1.9	<1.9	<2.0	<1.2	<1.2
Naphthalene	3.3	12.0	18.5	8.6	11
Hexachlorobutadiene	<0.9	<0.9	<1.0	<0.6	<0.6
Hexachlorocyclopentadiene	<5.0	<5.0	<5.0	<0.5	<0.5
2,4,6-Trichlorophenol	<2.7	<2.7	<3.0	<2.8	<2.7
Dimethylphthalate	<1.8	<1.8	<2.0	<0.5	<0.5
2,6-Dinitrotoluene	<1.9	<1.9	<2.0	<0.4	<0.4
Acenaphthylene	<3.5	<3.5	<4.0	<0.7	<0.7
2,4-Dinitrophenol	<42.0	<42.0	<42.0	<1.4	<1.3
4-Nitrophenol	<3.8	<3.8	<4.0	<0.7	<0.7
2,4-Dinitrotoluene	<5.7	<5.7	<6.0	<0.6	<0.6
Diethylphthalate	<1.9	<1.9	<2.0	<0.3	<0.3
Fluorene	<1.9	<1.9	<2.0	<0.6	<0.5
4,6-Dinitro-2-methylphenol	<24.0	<24.0	<24.0	<2.3	<2.2
N-Nitrosodiphenylamine	<1.9	<1.9	<2.0	<0.4	<0.4
Hexachlorobenzene	<1.9	<1.9	<2.0	<0.5	<0.5
Pentachlorophenol	<3.5	<3.5	<4.0	<3.0	<2.9
Phenanthrene	<5.4	<5.4	<5.4	<0.3	<0.3
Anthracene	<1.9	<1.9	<2.0	<0.3	<0.3
Di-n-butylphthalate	<2.5	<2.5	<3.0	<0.3	<0.3

NOTES:
(*) - Analyses performed by Intertek Testing Services. NJDEP Laboratory Certification No. 82716
(**) - Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
(D) - Indicates analysis at a secondary dilution.
Sample LS-3(1)-04D is a duplicate of sample LS-3(1)-04

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(1)-01	LS-3(1)-02	LS-3(1)-02	LS-3(1)-04	LS-3(1)-04D
Lab Sample No.	D97-4155-5	D98-3166-5	D98-3810-8	I607-92993	I607-92994
Depth (feet)	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	04/04/97	4/22/98	5/18/98	10/28/98	10/28/98
Compound (ug/l)					
BNAs	(*)	(*)	(*)	(**)	(**)
Fluoranthene	<2.2	<2.2	<2.2	<0.3	<0.3
Benzidine	<5.7	<5.7	<6.0	<22	<21
Pyrene	<1.9	<1.9	<2.0	<0.2	<0.2
Butylbenzylphthalate	<2.5	<2.5	<3.0	<0.6	<0.6
bis(2-Ethylhexyl)phthalate	<2.5	<2.5	1.2(J)	5.5	<1.2
3,3'-Dichlorobenzidine	<16.5	<16.5	<17.0	<1.8	<1.8
Benzo(a)anthracene	<7.8	<7.8	<8.0	<0.2	<0.2
Chrysene	<2.5	<2.5	<3.0	<0.3	<0.3
Benzo(b)fluroanthene	<4.8	<4.8	<5.0	<0.1	<0.1
Benzo(k)fluoranthene	<2.5	<2.5	<3.0	<0.2	<0.2
Benzo(a)pyrene	<2.5	<2.5	<3.0	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	<3.7	<3.7	<4.0	<0.2	<0.2
Dibenzo(a,h)anthracene	<2.5	<2.5	<3.0	<0.2	<0.2
Benzo(g,h,i)perylene	<4.1	<4.1	<4.1	<0.1	<0.1
1,2,4,5-Tetrachlorobenzene	<10.0	<100(D)	<10.0	<22	<22
Pentachlorobenzene	<10.0	<100(D)	<10.0	<22	<22
PCBs					
Aroclor 1016	<0.5	<1.00	<0.500	<0.30	<0.30
Aroclor 1221	<0.5	<2.00	<1.00	<0.30	<0.30
Aroclor 1232	<0.5	<2.00	<1.00	<0.40	<0.40
Aroclor 1242	<0.5	<2.00	<1.00	<0.20	<0.20
Aroclor 1248	<0.5	<2.00	<1.00	0.61	<0.30
Aroclor 1254	<0.5	<2.00	<1.00	<0.40	<0.40
Aroclor 1260	<0.5	<1.00	<0.500	<0.20	<0.20
DISSOLVED PCBs				(1)	(2)
Aroclor 1016	NA	<1.00	<0.515	<0.30	<0.30
Aroclor 1221	NA	<2.00	<1.03	<0.30	<0.30
Aroclor 1232	NA	<2.00	<1.03	<0.40	<0.40
Aroclor 1242	NA	<2.00	<1.03	<0.20	<0.20
Aroclor 1248	NA	<2.00	<1.03	<0.30	<0.30
Aroclor 1254	NA	<2.00	<1.03	<0.40	<0.40
Aroclor 1260	NA	<1.00	<0.515	<0.20	<0.20

NOTES:
(*) - Analyses performed by Intertek Testing Services. NJDEP Laboratory Certification No. 82716
(**) - Analyses performed by Envirotech Research Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(D) - Indicates analysis at a secondary dilution.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
Sample LS-3(1)-04D is a duplicate of sample LS-3(1)-04
(1) Lab Sample No. for this analysis is 1607-93003
(2) Lab Sample No. for this analysis is 1607-93004

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(2)-01	LS-3(2)-02	LS-3(2)-03
Lab Sample No.	D97-10473-6	D97-14402-5	F763-73120
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/27/97	11/21/97	7/22/98
Compound (ug/l) VOLATILES	(1)(*)	(1)(*)	(2)(**)
Chloromethane	<10.0	<10.0	<500
Bromomethane	<10.0	<10.0	<500
Vinyl chloride	41.3	12.3	<500
Chloroethane	<10.0	<10.0	<500
Methylene chloride	<5.0	<5.0	<300
Acetone	<100	21(J)	<500
Carbon disulfide	<5.0	<5.0	<500
1,1-Dichloroethene	<5.0	<5.0	<200
1,1-Dichloroethane	<5.0	<5.0	<500
cis -1,2-Dichloroethene	22.5	24.8	<500
trans-1,2-Dichloroethene	8.6	<5.0	<500
Chloroform	<5.0	<5.0	<500
1,2-Dichloroethane	5.6	<5.0	<200
2-Butanone	<50.0	<50.0	<500
1,1,1-Trichloroethane	<5.0	<5.0	<500
Carbon tetrachloride	<5.0	<5.0	<200
Bromodichloromethane	<5.0	<5.0	<100
1,2-Dichloropropane	<5.0	<5.0	<100
cis-1,3-Dichloropropene	<5.0	<5.0	<500
Trichloroethene	<5.0	5.7	<100
Chlorodibromomethane	<5.0	<5.0	<500
1,1,2-Trichloroethane	<5.0	<5.0	<300
Benzene	244	117	91(J)
trans-1,3-Dichloropropene	<5.0	<5.0	<500
Bromoform	<5.0	<5.0	<400
4-Methyl-2-pentanone	<50.0	<50.0	<500
2-Hexanone	<50.0	<50.0	<500
Tetrachloroethene	<5.0	<5.0	<100
Toluene	15.6	291	<500
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<100
Chlorobenzene	433(D)	1100(D)	1900
Ethylbenzene	12.7	28.3	<400
Styrene	<5.0	<5.0	<500
Total Xylenes	18.7	39.2	<500
Total VOCs	802	1639	1991
METALS			
Lead	77.3	<1	<5.0
Arsenic	4.1	<7.5	5.8

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification 12543
N/A - Not Applicable
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(D) - Analysis run at a secondary dilution.
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(2)-01	LS-3(2)-02	LS-3(2)-03
Lab Sample No.	D97-10473-6	D97-14402-5	F763-73120
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/27/97	11/21/97	7/22/98
Compound (ug/l)			
BNAs	(*)	(*)	(**)
N-Nitrosodimethylamine	<5.5	<5.0	<35
Phenol	4.8	2.7	<56
Bis(2-chloroethyl)ether	<6.3	<5.7	<62
2-Chlorophenol	4.1	5.2	<110
1,3-Dichlorobenzene	68.0	4.1	<170
1,4-Dichlorobenzene	165	108	<180
1,2-Dichlorobenzene	2270(D)	4630(D)	5100
Bis(2-chloroisopropyl)ether	<6.3	<5.7	<70
Hexachloroethane	<1.8	<1.6	<120
Nitrobenzene	<2.1	<1.9	<75
Isophorone	<2.4	<2.2	<85
2,4-Dimethylphenol	<3.0	<2.7	<140
2-Nitrophenol	<4.2	<3.8	<150
2,4-Dichlorophenol	<3.0	2.7	<150
1,2,4-Trichlorobenzene	<2.1	1.7(J)	<190
Naphthalene	1.7(J)	2.8	<130
Hexachlorobutadiene	<1.0	<0.9	<110
Hexachlorocyclopentadiene	<5.5	<5.0	<82
2,4,6-Trichlorophenol	<3.0	<2.7	<150
Dimethylphthalate	<2.0	<1.8	<64
2,6-Dinitrotoluene	<2.1	<1.9	<75
Acenaphthylene	<3.9	<3.5	<140
2,4-Dinitrophenol	<46.2	<42.0	<290
4-Nitrophenol	<4.2	<3.8	<60
2,4-Dinitrotoluene	<6.3	<5.7	<75
Diethylphthalate	<2.1	<1.9	<58
Fluorene	<2.1	<1.9	<98
4,6-Dinitro-2-methylphenol	<26.4	<24.0	<200
N-Nitrosodidiphenylamine	<2.1	<1.9	<56
Hexachlorobenzene	<2.1	<1.9	<63
Pentachlorophenol	<3.9	<3.5	<130
Phenanthrene	<5.9	<5.4	<52
Anthracene	<2.1	<1.9	<56
Di-n-butylphthalate	<2.8	<2.5	<48

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
N/A - Not Applicable
(J) - Indicates and estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(D) - Analysis run at a secondary dilution.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(2)-01	LS-3(2)-02	LS-3(2)-03
Lab Sample No.	D97-10473-6	D97-14402-5	F763-73120
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/27/97	11/21/97	7/22/98
Compound (ppb)			
BNAs	(*)	(*)	(**)
Fluoranthene	<2.4	<2.2	<56
Benzidine	<6.3	<5.7	<25
Pyrene	<2.1	<1.9	<30
Butylbenzylphthalate	<2.8	<2.5	<33
bis(2-Ethylhexyl)phthalate	5.0	<2.5	<58
3,3'-Dichlorobenzidine	<18.2	<16.5	<73
Benzo(a)anthracene	<8.6	<7.8	<42
Chrysene	<2.8	<2.5	<43
Benzo(b)fluroanthene	<5.3	<4.8	<37
Benzo(k)fluoranthene	<2.8	<2.5	<46
Benzo(a)pyrene	<2.8	<2.5	<40
Indeno(1,2,3-cd)pyrene	<4.1	<3.7	<35
Dibenzo(a,h)anthracene	<2.8	<2.5	<42
Benzo(g,h,i)perylene	<4.5	<4.1	<37
1,2,4,5-Tetrachlorobenzene	<11.0	<10.0	<1000
Pentachlorobenzene	<11.0	<10.0	<1000
PCBs			
Aroclor 1016	<0.500	<0.500	<0.30
Aroclor 1221	<0.500	<0.500	<0.40
Aroclor 1232	<0.500	<0.500	<0.30
Aroclor 1242	<0.500	<0.500	<0.30
Aroclor 1248	0.940	2.34	0.53
Aroclor 1254	<0.500	<0.500	<0.40
Aroclor 1260	<0.500	<0.500	<0.20
DISSOLVED PCBs			(1)
Aroclor 1016	NA	<0.500	<0.30
Aroclor 1221	NA	<0.500	<0.40
Aroclor 1232	NA	<0.500	<0.30
Aroclor 1242	NA	<0.500	<0.30
Aroclor 1248	NA	<0.500	<0.30
Aroclor 1254	NA	<0.500	<0.40
Aroclor 1260	NA	<0.500	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
N/A - Not Applicable
NA - Not Analyzed
(1) Lab Sample No. for this analysis is F763-73129
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(3)-01	LS-3(3)-01	LS-3(3)-01D	LS-3(3)-02	LS-3(3)-02D	LS-3(3)-03	LS-3(3)-03D
Lab Sample No.	D96-13392-3	D97-14402-6	D97-14402-7	D98-3166-6	D98-3166-7	H772-87307	H772-87308
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	11/21/96	11/21/97	11/21/97	4/22/98	4/22/98	9/30/98	9/30/98
Compound (ug/l) VOLATILES	(1)(*)	(1)(*)	(1)(*)	(1)(*)	(1)(*)	(2)(**)	(2)(**)
Chloromethane	<10.0	<10.0	<10.0	<100(D)	<100(D)	<5.0	<5.0
Bromomethane	<10.0	<10.0	<10.0	<100(D)	<100(D)	<5.0	<5.0
Vinyl chloride	29.1	39.0	38.7	<100(D)	<100(D)	<5.0	<5.0
Chloroethane	<10.0	<10.0	<10.0	<100(D)	<100(D)	<5.0	<5.0
Methylene chloride	<5.0	<5.0	<5.0	<50(D)	<50(D)	<3.0	<3.0
Acetone	<100	225	24(J)	<1000(D)	<1000(D)	<5.0	<5.0
Carbon disulfide	<5.0	<5.0	<5.0	<50(D)	<50(D)	0.9(J)	<5.0
1,1-Dichloroethene	<5.0	<5.0	<5.0	<50(D)	<50(D)	<2.0	<2.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<50(D)	<50(D)	<5.0	<5.0
cis -1,2-Dichloroethene	37.5	78.8	75	<50(D)	710(D)	0.6(J)	0.6(J)
trans-1,2-Dichloroethene	6.5	5.2	<5.0	<50(D)	27(J)(D)	<5.0	<5.0
Chloroform	<5.0	<5.0	<5.0	<50(D)	<50(D)	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0	<50(D)	<50(D)	<2.0	<2.0
2-Butanone	<50.0	<50.0	<50.0	<500(D)	<500(D)	<5.0	<5.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<50(D)	<50(D)	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<5.0	<50(D)	<50(D)	<2.0	<2.0
Bromodichloromethane	<5.0	<5.0	<5.0	<50(D)	<50(D)	<1.0	<1.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<50(D)	<50(D)	<1.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<50(D)	<50(D)	<5.0	<5.0
Trichloroethene	<5.0	<5.0	<5.0	<50(D)	<50(D)	<1.0	0.5(J)
Chlorodibromomethane	<5.0	<5.0	<5.0	<50(D)	<50(D)	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<50(D)	<50(D)	<3.0	<3.0
Benzene	70.0	103	98.3	115(D)	705(D)	18	18
trans-1,2-Dichloropropene	<5.0	<5.0	<5.0	<50(D)	<50(D)	<5.0	<5.0
Bromoform	<5.0	<5.0	<5.0	<50(D)	<50(D)	<4.0	<4.0
4-Methyl-2-pentanone	<50.0	<50.0	<50.0	<500(D)	<500(D)	<5.0	<5.0
2-Hexanone	<50.0	<50.0	<50.0	<500(D)	<500(D)	<5.0	<5.0
Tetrachloroethene	<5.0	<5.0	<5.0	<50(D)	<50(D)	<1.0	<1.0
Toluene	27.6	21.7	20.6	<50(D)	71(D)	<5.0	<5.0
1,1,2,2-Tetrachloroethane	7.9	<5.0	<5.0	<50(D)	<50(D)	<1.0	<1.0
Chlorobenzene	24.1	85.6	80.3	1180(D)	100(D)	52	46
Ethylbenzene	8.3	8.9	8.3	<50(D)	36(J)(D)	2.5(J)	2.1(J)
Styrene	<5.0	<5.0	<5.0	<50(D)	<50(D)	<5.0	<5.0
Total Xylenes	25.1	21.7	20.7	<100(D)	41(J)(D)	<5.0	<5.0
Total VOCs	236.1	589	366	1295(D)	1690(D)	74.0(J)	67.2(J)
METALS							
Lead	<1.5	<1	<1	3.0	3.0	<2.8	<2.8
Arsenic	<1.0	<7.5	<7.5	2.0(B)	1.9(B)	<2.0	<2.0

NOTES:
(*) Analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs) EPA Method 7060 - Arsenic
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs) EPA Method 7421 - Lead
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(D) - Indicates all compounds in an analysis at a secondary dilution.
Sample LS-3(3)-01D is a duplicate of sample LS-3(3)-01[D97-14402-6]
Sample LS-3(3)-02D is a duplicate of sample LS-3(3)-02
Sample LS-3(3)-03D is a duplicate of sample LS-3(3)-03

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(3)-01	LS-3(3)-01	LS-3(3)-01D	LS-3(3)-02	LS-3(3)-02D	LS-3(3)-03	LS-3(3)-03D
Lab Sample No.	D96-13392-3	D97-14402-	D97-14402-	D98-3166-6	D98-3166-7	H772-8730	H772-87308
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	11/21/96	11/21/97	11/21/97	4/22/98	4/22/98	9/30/98	9/30/98
Compound (ug/l) BNAs	(1)(*)	(*)	(*)	(*)	(*)	(**)	(**)
N-Nitrosodimethylamine	<5.6	<5.0	<5.0	<5.0	<5.0	<0.7	<0.7
Phenol	<1.7	<1.5	<1.5	<1.5	<1.5	<1.4	<1.3
Bis(2-chloroethyl)ether	<6.3	<5.7	<5.7	<5.7	<5.7	<1.0	<0.9
2-Chlorophenol	<3.7	<3.3	<3.3	<3.3	1.0(J)	<3.1	<2.8
1,3-Dichlorobenzene	<2.1	<1.9	<1.9	4.8	3.1	<1.1	0.8(J)
1,4-Dichlorobenzene	5.1	<4.4	<4.4	12.3	8.6	<1.2	2.8
1,2-Dichlorobenzene	44.6	<1.9	<1.9	40.5	25.5	25	24
Bis(2-chloroisopropyl)ether	<6.3	<5.7	<5.7	<5.7	<5.7	<0.9	<0.8
Hexachloroethane	<1.8	<1.6	<1.6	<1.6	<1.6	<0.9	<0.8
Nitrobenzene	<2.1	<1.9	<1.9	<1.9	<1.9	<1.1	<1.0
Isophorone	<2.4	<2.2	<2.2	<2.2	<2.2	<0.9	<0.8
2,4-Dimethylphenol	<3.0	<2.7	<2.7	12.6	<2.7	<3.1	<2.9
2-Nitrophenol	<4.2	<3.8	<3.8	<3.8	<3.8	<3.0	<2.7
2,4-Dichlorophenol	<3.0	<2.7	<2.7	<2.7	<2.7	<3.1	<2.8
1,2,4-Trichlorobenzene	<2.1	<1.9	<1.9	<1.9	<1.9	<1.2	<1.1
Naphthalene	<2.0	<1.8	<1.8	<1.8	<1.8	<1.0	<1.0
Hexachlorobutadiene	<1.0	<0.9	<0.9	<0.9	<0.9	<0.6	<0.6
Hexachlorocyclopentadiene	<5.6	<5.0	<5.0	<5.0	<5.0	<0.5	<0.4
2,4,6-Trichlorophenol	<3.0	<2.7	<2.7	<2.7	<2.7	<2.8	<2.5
Dimethylphthalate	<2.0	<1.8	<1.8	<1.8	<1.8	<0.5	<0.5
2,6-Dinitrotoluene	<2.1	<1.9	<1.9	<1.9	<1.9	<0.4	<0.4
Acenaphthylene	<3.9	<3.5	<3.5	<3.5	<3.5	<0.7	<0.7
2,4-Dinitrophenol	<46.6	<42.0	<42.0	<42.0	<42.0	<1.4	<1.3
4-Nitrophenol	<4.2	<3.8	<3.8	<3.8	<3.8	<0.7	<0.7
2,4-Dinitrotoluene	<6.3	<5.7	<5.7	<5.7	<5.7	<0.6	<0.5
Diethylphthalate	<2.1	<1.9	<1.9	<1.9	5.0	<0.3	<0.3
Fluorene	<2.1	<1.9	<1.9	<1.9	<1.9	<0.6	<0.5
4,6-Dinitro-2-methylphenol	<26.6	<24.0	<24.0	<24.0	<24.0	<2.3	<2.1
N-Nitrosodiphenylamine	<2.1	<1.9	<1.9	<1.9	<1.9	<0.7	<0.4
Hexachlorobenzene	<2.1	<1.9	<1.9	<1.9	<1.9	<0.5	<0.4
Pentachlorophenol	<2.9	<3.5	<3.5	<3.5	<3.5	<3.0	<2.8
Phenanthrene	<6.0	<5.4	<5.4	<5.4	<5.4	<0.3	<0.3
Anthracene	<2.1	<1.9	<1.9	<1.9	<1.9	<0.3	<0.3
Di-n-Butylphthalate	<2.8	<2.5	<2.5	<2.5	<2.5	<0.3	<0.3

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No\. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
Sample LS-3(3)-01D is a duplicate of sample LS-3(3)-01[D97-14402-6]
Sample LS-3(3)-02D is a duplicate of sample LS-3(3)-02
Sample LS-3(3)-03D is a duplicate of sample LS-3(3)-03

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
RAMEDIAL ACTION REPORT

Field Sample No.	LS-3(3)-01	LS-3(3)-01	LS-3(3)-01D	LS-3(3)-02	LS-3(3)-02D	LS-3(3)-03	LS-3(3)-03D
Lab Sample No.	D96-13392-3	D97-14402-6	D97-14402-7	D98-3166-6	D98-3166-7	H772-87307	H772-87308
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	11/21/96	11/21/97	11/21/97	4/22/98	4/22/98	9/30/98	9/30/98
Compound (ug/l)							
BNAs	(*)	(*)	(*)	(*)	(*)	(**)	(**)
Fluoranthene	<2.4	<2.2	<2.2	<2.2	<2.2	<0.3	<0.3
Benzidine	<6.3	<5.7	<5.7	<5.7	<5.7	<22	<20
Pyrene	<2.1	<1.9	<1.9	<1.9	<1.9	<0.2	<0.2
Butylbenzylphthalate	<2.8	<2.5	<2.5	<2.5	<2.5	<0.6	<0.6
bis(2-Ethylhexyl)phthalate	<2.8	<2.5	<2.5	<2.5	<2.5	<1.2	<1.1
3,3'-Dichlorobenzidine	<18.3	<16.5	<16.5	<16.5	<16.5	<1.8	<1.6
Benzo(a)anthracene	<8.7	<7.8	<7.8	<7.8	<7.8	<0.2	<0.2
Chrysene	<2.6	<2.5	<2.5	<2.5	<2.5	<0.3	<0.3
Benzo(b)fluroanthene	<5.3	<4.8	<4.8	<4.8	<4.8	<0.1	<0.1
Benzo(k)fluoranthene	<2.8	<2.5	<2.5	<2.5	<2.5	<0.2	<0.2
Benzo(a)pyrene	<2.8	<2.5	<2.5	<2.5	<2.5	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	<4.1	<3.7	<3.7	<3.7	<3.7	<0.2	<0.2
Dibenzo(a,h)anthracene	<2.8	<2.5	<2.5	<2.5	<2.5	<0.2	<0.2
Benzo(g,h,i)perylene	<4.6	<4.1	<4.1	<4.1	<4.1	<0.1	<0.1
1,2,4,5-Tetrachlorobenzene	<11.1	<10.0	<10.0	<10.0	<10.0	<22	<20
Pentachlorobenzene	<11.1	<10.0	<10.0	<10.0	<10.0	<22	<20
PCBs							
Aroclor 1016	<0.500	<0.500	<0.500	<1.00	<1.00	<0.30	<0.30
Aroclor 1221	<0.500	<0.500	<0.500	<2.00	<2.00	<0.30	<0.30
Aroclor 1232	<0.500	<0.500	<0.500	<2.00	<2.00	<0.40	<0.40
Aroclor 1242	<0.500	<0.500	<0.500	<2.00	<2.00	<0.20	<0.20
Aroclor 1248	<0.500	0.536	<0.500	<2.00	<2.00	<0.30	<0.30
Aroclor 1254	<0.500	<0.500	<0.500	<2.00	<2.00	<0.40	<0.40
Aroclor 1260	<0.500	<0.500	<0.500	<1.00	<1.00	<0.20	<0.20
DISSOLVED PCBs						(1)	(2)
Aroclor 1016	NA	<0.500	<0.500	<1.05	<1.00	<0.30	<0.30
Aroclor 1221	NA	<0.500	<0.500	<2.10	<2.00	<0.30	<0.30
Aroclor 1232	NA	<0.500	<0.500	<2.10	<2.00	<0.40	<0.40
Aroclor 1242	NA	<0.500	<0.500	<2.10	<2.00	<0.20	<0.20
Aroclor 1248	NA	<0.500	<0.500	<2.10	<2.00	<0.30	<0.30
Aroclor 1254	NA	<0.500	<0.500	<2.10	<2.00	<0.40	<0.40
Aroclor 1260	NA	<0.500	<0.500	<1.05	<1.00	<0.20	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, inc., NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) The Lab Sample No. for this analysis is H772-87317
(2) The Lab Sample No. for this analysis is H772-87318
Sample LS-3(3)-01D is a duplicate of sample LS-3(3)-01[D97-14402-6]
Sample LS-3(3)-02D is a duplicate of sample LS-3(3)-02
Sample LS-3(3)-03D is a duplicate of sample LS-3(3)-03

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(04)-01	LS-3(4)-01	LS-3(4)-02	LS-3(4)-02D	LS-3(4)-03
Lab Sample No.	D96-10433-4	D97-11886-3	D97-15123-6	D97-15123-7	G783-80546
Depth (feet)	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	9/18/96	9/30/97	12/15/97	12/15/97	8/26/98
Compound (ug/l) VOLATILES	(1)(*)	(1)(*)	(1)(*)	(1)(*)	(2)(**)
Chloromethane	<10.0	<10.0	<10.0	<10.0	<50
Bromomethane	<10.0	<10.0	<10.0	<10.0	<50
Vinyl chloride	<10.0	<10.0	<10.0	<10.0	<50
Chloroethane	<10.0	<10.0	<10.0	<10.0	<50
Methylene chloride	<5.0	<5.0	<5.0	<5.0	<30
Acetone	<100	<100	<100	<100	<50
Carbon disulfide	<5.0	<5.0	<5.0	<5.0	<50
1,1 - Dichloroethene	<5.0	<5.0	<5.0	<5.0	<20
1,1 - Dichloroethane	<5.0	<5.0	<5.0	<5.0	<50
cis - 1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0	<50
trans-1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0	<50
Chloroform	<5.0	<5.0	<5.0	<5.0	<50
1,2-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<20
2-Butanone	<50.0	<50.0	<50.0	<50.0	<50
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<50
Carbon tetrachloride	<5.0	<5.0	<5.0	<5.0	<20
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0	<10
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	<10
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<50
Trichloroethene	<5.0	<5.0	<5.0	<5.0	<10
Chlorodibromomethane	<5.0	<5.0	<5.0	<5.0	<50
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<30
Benzene	<5.0	<5.0	<5.0	<5.0	9.3(J)
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<50
Bromoform	<5.0	<5.0	<5.0	<5.0	<40
4-Methyl-2-pentanone	<50.0	<50.0	<50.0	<50.0	<50
2-Hexanone	<50.0	<50.0	<50.0	<50.0	<50
Tetrachloroethene	<5.0	<5.0	<5.0	<5.0	<10
Toluene	<5.0	<5.0	<5.0	<5.0	<50
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	<10
Chlorobenzene	7.0	35.2	<5.0	11.6	820
Ethylbenzene	<5.0	<5.0	<5.0	<5.0	<40
Styrene	<5.0	<5.0	<5.0	<5.0	<50
Total Xylenes	<10.0	<10.0	<10.0	<10.0	<50
Total VOCs	7.0	35.2	<100	11.6	829
METALS					
Arsenic	NA	2.0	<1	<1	3.1
Lead	NA	10.0	3.6	2(B)	<2.0

NOTES:
(*) Analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
NA - Not Analyzed
(1) EPA Method 8240 - Volatile Organic Analysis (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
(B) - Reported value is less than the Method Detection Limit but greater than the Instrument Detection Limit.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
Sampled 9/8/4)-02D is a duplicate of sample LS-3(4)-02

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(4)-01	LS-3(4)-01	LS-3(4)-02	LS-3(4)-02D	LS-3(4)-03
Lab Sample No.	D96-10433-4	D97-11886-3	D97-15123-6	D97-15123-7	G783-80546
Depth (feet)	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	9/18/96	9/30/97	12/15/97	12/15/97	8/26/98
Compound (ug/l) BNAs		(*)	(*)	(*)	(**)
N-Nitrosodimethylamine	NA	<5.2	<5.5	<5.0	<3.5
Phenol	NA	<1.5	1380(D)	<2.0	<5.6
Bis(2-chloroethyl)ether	NA	<5.9	<6.3	<6.0	<6.2
2-Chlorophenol	NA	<3.4	<3.6	<3.3	<11
1,3-Dichlorobenzene	NA	<2.0	<2.1	<2.0	<17
1,4-Dichlorobenzene	NA	<4.5	<4.8	<4.4	26
1,2-Dichlorobenzene	NA	31.5	6.1	12.8	310
Bis(2-chloroisopropyl)ether	NA	<5.9	<6.3	<6.0	<7.0
Hexachloroethane	NA	<1.6	<1.8	<2.0	<12
Nitrobenzene	NA	<2.0	<2.1	<2.0	<7.5
Isophorone	NA	<2.3	<2.4	<2.2	<8.5
2,4-Dimethylphenol	NA	<2.8	<3.0	<3.0	<14
2-Nitrophenol	NA	<3.9	<18(D)	<4.0	<15
2,4-Dichlorophenol	NA	<2.8	<3.0	<3.0	<15
1,2,4-Trichlorobenzene	NA	<2.0	<2.1	<2.0	<19
Naphthalene	NA	<1.9	<2.0	<2.0	13
Hexachlorobutadiene	NA	<0.9	<1.0	<1.0	<11
Hexachlorocyclopentadiene	NA	<5.2	<5.5	<5.0	<8.2
2,4,6-Trichlorophenol	NA	<2.8	<3.0	<3.0	<15
Dimethylphthalate	NA	<1.9	<2.0	<2.0	<6.4
2,6-Dinitrotoluene	NA	<2.0	<2.1	<2.0	<7.5
Acenaphthylene	NA	<3.6	<3.9	<4.0	<10
2,4-Dinitrophenol	NA	<43.3	<46.2	<42.0	<29
4-Nitrophenol	NA	<3.9	<4.2	<4.0	<6.0
2,4-Dinitrotoluene	NA	<5.9	<6.3	<6.0	<7.5
Diethylphthalate	NA	<2.0	<2.1	<2.0	<5.8
Fluorene	NA	<2.0	<2.1	<2.0	<9.8
4,6-Dinitro-2-methylphenol	NA	<24.7	<26.4	<24.0	<20
N-Nitrosodiphenylamine	NA	<2.0	<2.1	<2.0	<5.6
Hexachlorobenzene	NA	<2.0	<2.1	<2.0	<6.3
Pentachlorophenol	NA	<3.6	<3.9	<4.0	<13
Phenanthrene	NA	<5.6	<5.9	<5.4	<5.2
Anthracene	NA	<2.0	<2.1	<2.0	<5.6
Di-n-butylphthalate	NA	<2.6	<2.8	<3.0	<4.8

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
(D) - Indicates analysis at a secondary dilution.
Sample LS-3(4)-02D is a duplicate of sample LS-3(4)-02

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION RESULTS

Field Sample No.	LS-3(4)-01	LS-3(4)-01	LS-3(4)-02	LS-3(4)-02D	LS-3(4)-03
Lab Sample No.	D96-10433-4	D97-11886-3	D97-15123-6	D97-15123-7	G783-80546
Depth (ft.)	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	9/18/96	9/30/97	12/15/97	12/15/97	8/26/98
Compound (ug/l)					
BNAs		(*)	(*)	(*)	(**)
Fluoranthene	NA	<2.3	<2.4	<2.2	<5.6
Benzidine	NA	<5.9	<6.3	<6.0	<2.5
Pyrene	NA	<2.0	<2.1	<2.0	<3.0
Butylbenzylphthalate	NA	<2.6	<2.8	<3.0	<3.3
bis(2-Ethylhexyl)phthalate	NA	<2.6	<2.8	<3.0	<5.8
3,3'-Dichlorobenzidine	NA	<17.0	<18.2	<17.0	<7.3
Benzo(a)anthracene	NA	<8.0	<8.6	<8.0	<4.2
Chrysene	NA	<2.6	<2.8	<3.0	<4.3
Benzo(b)fluroanthene	NA	<4.9	<5.3	<5.0	<3.7
Benzo(k)fluoranthene	NA	<2.6	<2.8	<3.0	<4.6
Benzo(a)pyrene	NA	<2.6	<2.8	<3.0	<4.0
Indeno(1,2,3-cd)pyrene	NA	<3.8	<4.1	<4.0	<3.5
Dibenzo(a,h)anthracene	NA	<2.6	<2.8	<3.0	<4.2
Benzo(g,h,i)perylene	NA	<4.2	<4.5	<4.1	<3.7
1,2,4,5-Tetrachlorobenzene	NA	<10.3	<11.0	<10.0	<100
Pentachlorobenzene	NA	<10.3	<11.0	<10.0	<100
PCBs					
Aroclor 1016	NA	<0.50	<0.50	<0.50	<0.30
Aroclor 1221	NA	<0.50	<0.50	<0.50	<0.40
Aroclor 1232	NA	<0.50	<0.50	<0.50	<0.30
Aroclor 1242	NA	<0.50	<0.50	<0.50	<0.30
Aroclor 1248	NA	<0.50	<0.50	<0.50	<0.30
Aroclor 1254	NA	<0.50	<0.50	<0.50	<0.40
Aroclor 1260	NA	<0.50	<0.50	<0.50	<0.20
DISSOLVED PCBs					(1)
Aroclor 1016	NA	<0.50	<0.50	<0.50	<0.30
Aroclor 1221	NA	<0.50	<0.50	<0.50	<0.40
Aroclor 1232	NA	<0.50	<0.50	<0.50	<0.30
Aroclor 1242	NA	<0.50	<0.50	<0.50	<0.30
Aroclor 1248	NA	<0.50	<0.50	<0.50	<0.30
Aroclor 1254	NA	<0.50	<0.50	<0.50	<0.40
Aroclor 1260	NA	<0.50	<0.50	<0.50	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) The Lab Sample No. for this analysis is G783-80555
Sample LS-3(4)-02D is a duplicate of sample LS-3(4)-02

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(5)-01	LS-3(5)-02	LS-3(5)-03	LS-3(5)-03D
Lab Sample No.	D97-4155-6	D97-15123-5	G783-80547	G783-80547
Depth (feet)	N/A	N/A	N/A	NA
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	04/04/97	12/15/97	8/26/98	8/26/98
Compound (ug/l) VOLATILES	(1)(*)	(1)(*)	(2)(**)	(2)(**)
Chloromethane	<10.0	<10.0	<5.0	<5.0
Bromomethane	<10.0	<10.0	<5.0	<5.0
Vinyl chloride	348(D)	6.2(J)	1.7(J)	1.7(J)
Chloroethane	<10.0	<10.0	<5.0	<5.0
Methylene chloride	<5.0	<5.0	0.8(J)(B)	0.7(J)(B)
Acetone	<100	40(J)	22	<5.0
Carbon disulfide	<5.0	<5.0	1.0(J)	0.7(J)
1,1-Dichloroethene	<5.0	<5.0	<2.0	<2.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0
cis -1,2-Dichloroethene	2020(D)	9.1	1.1(J)	0.9(J)
trans-1,2-Dichloroethene	206	<5.0	<5.0	<5.0
Chloroform	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<2.0	<2.0
2-Butanone	<50.0	<50.0	2.7(J)	<5.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<2.0	<2.0
Bromodichloromethane	<5.0	<5.0	<1.0	<1.0
1,2-Dichloropropane	<5.0	<5.0	<1.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Trichloroethene	24.1	<5.0	0.8(J)	0.6(J)
Chlorodibromomethane	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<3.0	<3.0
Benzene	1420(D)	83.1	160	150
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<4.0	<4.0
4-Methyl-2-Pentanone	<50.0	<50.0	<5.0	<5.0
2-Hexanone	<50.0	<50.0	<5.0	<5.0
Tetrachloroethene	<5.0	<5.0	<1.0	<1.0
Toluene	1870(D)	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	158	<5.0	<1.0	<1.0
Chlorobenzene	170	43.2	93	89
Ethylbenzene	117	14.1	21	21
Styrene	<5.0	<5.0	<5.0	<5.0
Total Xylenes	468	17.6	6.9	6.6
Total VOCs	6801	213	311	272
METALS				
Lead	<1.8	<1	<2.8	<2.8
Arsenic	<4.8	1.6(B')	<2.0	<2.0

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(B) - Compound detected in method blank, indicating possible contamination of the environmental sample.
(B') - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.
(D) - Indicates an analysis at a secondary dilution
Sample LS-3(5)-03D is a duplicate of sample LS-3(5)--03

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(5)-01	LS-3(5)-02	LS-3(5)-03	LS-3(5)-03D
Lab Sample No.	D97-4155-6	D97-15123-5	G783-80547	G783-80547
Depth (feet)	N/A	N/A	N/A	NA
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	04/04/97	12/15/97	8/26/98	8/26/98
Compound (ug/l) BNAs	(*)	(*)	(**)	(**)
N-Nitrosodimethylamine	<5.0	<5.0	<0.7	<0.7
Phenol	148	<2.0	7.4	2.9
Bis(2-chloroethyl)ether	<5.7	<6.0	<1.2	<1.2
2-Chlorophenol	<3.3	<3.3	<2.1	<2.2
1,3-Dichlorobenzene	12.4	3.8	3.5	3.7
1,4-Dichlorobenzene	19.7	9.6	10	10
1,2-Dichlorobenzene	137	48.7	35	36
Bis(2-chloroisopropyl)ether	<5.7	<6.0	<1.4	<1.4
Hexachloroethane	<1.6	<2.0	<2.4	<2.4
Nitrobenzene	<1.9	<2.0	<1.5	<1.5
Isophorone	<2.2	<2.2	<1.7	<1.7
2,4-Dimethylphenol	<2.7	<3.0	<2.8	<2.8
2-Nitrophenol	<3.8	<4.0	<3.1	<3.1
2,4-Dichlorophenol	<2.7	<3.0	<2.9	<3.0
1,2,4-Trichlorobenzene	4.2	<2.0	<3.7	<3.8
Naphthalene	<1.8	<2.0	<2.5	<2.6
Hexachlorobutadiene	<0.9	<1.0	<2.1	<2.2
Hexachlorocyclopentadiene	<5.0	<5.0	<1.6	<1.6
2,4,6-Trichlorophenol	<2.7	<3.0	<3.0	<3.1
Dimethylphthalate	<1.8	<2.0	<1.3	<1.3
2,6-Dinitrotoluene	<1.9	<2.0	<1.5	<1.5
Acenaphthylene	<3.5	<4.0	<2.0	<2.8
2,4-Dinitrophenol	<42.0	<42.0	<5.7	<5.8
4-Nitrophenol	<3.8	<4.0	<1.2	<1.2
2,4-Dinitrotoluene	<5.7	<6.0	<1.5	<1.5
Diethylphthalate	<1.9	<2.0	<1.2	<1.2
Fluorene	<1.9	<2.0	<1.9	<2.0
4,6-Dinitro-2-methylphenol	<24.0	<24.0	<4.0	<4.1
N-Nitrosodiphenylamine	<1.9	<2.0	<1.1	<1.1
Hexachlorobenzene	<1.9	<2.0	<1.2	<1.3
Pentachlorophenol	<3.5	<4.0	<2.5	<2.6
Phenanthrene	<5.4	<5.4	<1.0	<1.1
Anthracene	<1.9	<2.0	<1.1	<1.1
Di-n-butylphthalate	<2.5	<3.0	<1.0	<1.0

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
Sample LS-3(5)-03D is a duplicate of sample LS-3(5)-03

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION RESULTS

Field Sample No.	LS-3(5)-01	LS-3(5)-02	LS-3(5)-03	LS-3(5)-03D
Lab Sample No.	D97-4155-6	D97-15123-5	G783-80547	G783-80548
Depth (feet)	N/A	N/A	N/A	NA
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	04/04/97	12/15/97	8/26/98	8/26/98
Compound (ug/l)				
BNAs	(*)	(*)	(**)	(**)
Fluoranthene	<2.2	<2.2	<1.1	<1.1
Benzidine	<5.7	<6.0	<0.5	<0.5
Pyrene	<1.9	<2.0	<0.6	<0.6
Butylbenzylphthalate	<2.5	<3.0	<0.7	<0.7
bis(2-Ethylhexyl)phthalate	<2.5	1.4(J)	<1.1	1.6
3,3'-Dichlorobenzidine	<16.5	<17.0	<1.4	<1.5
Benzo(a)anthracene	<7.8	<8.0	<0.8	<0.9
Chrysene	<2.5	<3.0	<0.9	<0.9
Benzo(b)fluroanthene	<4.8	<5.0	<0.7	<0.8
Benzo(k)fluoranthene	<2.5	<3.0	<0.9	<0.9
Benzo(a)pyrene	<2.5	<3.0	<0.8	<0.8
Indeno(1,2,3-cd)pyrene	<3.7	<4.0	<0.7	<0.7
Dibenzo(a,h)anthracene	<2.5	<3.0	<0.8	<0.9
Benzo(g,h,i)perylene	<4.1	<4.1	<0.7	<0.8
1,2,4,5-Tetrachlorobenzene	<10.0	<10.0	<20	<20
Pentachlorobenzene	<10.0	<10.0	<20	<20
PCBs				
Aroclor 1016	<0.500	<0.50	<0.30	<0.30
Aroclor 1221	<0.500	<0.50	<0.40	<0.40
Aroclor 1232	<0.500	<0.50	<0.30	<0.30
Aroclor 1242	<0.500	<0.50	<0.30	<0.30
Aroclor 1248	<0.500	<0.50	<0.30	<0.30
Aroclor 1254	<0.500	<0.50	<0.40	<0.40
Aroclor 1260	<0.500	<0.50	<0.20	<0.20
DISSOLVED PCBs			(1)	(2)
Aroclor 1016	NA	<0.50	<0.30	<0.30
Aroclor 1221	NA	<0.50	<0.40	<0.40
Aroclor 1232	NA	<0.50	<0.30	<0.30
Aroclor 1242	NA	<0.50	<0.30	<0.30
Aroclor 1248	NA	<0.50	<0.30	<0.30
Aroclor 1254	NA	<0.50	<0.40	<0.40
Aroclor 1260	NA	<0.50	<0.20	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(1) The Lab Sample No. for this analysis is G783-80556
(2) The Lab Sample No. for this analysis is G783-80557

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3-01	LS-3-01D	LS-3(6)-02	LS-3-01	LS-3(6)-02	LS-3(6)-03
Lab Sample No.	D96-5796-1	D96-5796-2	D96-7495-1	D96-7981-1	D96-9195-1	D96-10438-1
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	5/29/96	5/29/96	7/10/96	7/18/96	8/19/96	9/18/96
Compound (ug/l) VOLATILES						
Chloromethane	<100	<100	<200(D)	<3.00	<10.0	<10.0
Bromomethane	<100	<100	<200(D)	<2.00	<10.0	<10.0
Vinyl chloride	<100	<100	709	466	309	14.2
Chloroethane	<100	<100	<200(D)	<2.6	<10.0	<10.0
Methylene chloride	<50	<50	<100(D)	<2.8	<5.0	<5.0
Acetone	1560	987(J)	2000	NA	<100	<100
Carbon disulfide	<50	<50	<100(D)	NA	<5.0	<5.0
1,1 - Dichloroethene	<50	<50	<100(D)	<2.8	<5.0	<5.0
1,1 - Dichloroethane	<50	<50	<100(D)	<4.7	<5.0	<5.0
cis - 1,2-Dichloroethene	191	151	734	NA	280	52.3
trans-1,2-Dichloroethene	<50	<50	88.8(J)	45.1	28.0	5.1
Chloroform	<50	<50	<100(D)	<1.6	<5.0	<5.0
1,2-Dichloroethane	<50	<50	<100(D)	<2.8	<5.0	<5.0
2-Butanone	<1000	<1000	<100(D)	NA	<50.0	<50.0
1,1,1-Trichloroethane	<50	<50	<100(D)	<3.8	<5.0	<5.0
Carbon tetrachloride	<50	<50	<100(D)	<2.8	<5.0	<5.0
Bromodichloromethane	<50	<50	<100(D)	<2.2	<5.0	<5.0
1,2-Dichloropropane	<50	<50	<100(D)	NA	<5.0	<5.0
cis-1,3-Dichloropropene	<50	<50	<100(D)	NA	<5.0	<5.0
Trichloroethene	195	156	115	19.1	9.5	7.8
Chlorodibromomethane	<50	<50	NA	<2.2	<5.0	<5.0
1,1,2-Trichloroethane	<50	<50	<100(D)	<5.0	<5.0	<5.0
Benzene	693	529	5550	1420	528	34.3
trans-1,3-Dichloropropene	<50	<50	<100(D)	NA	<5.0	<5.0
Bromoform	<50	<50	<100(D)	<4.7	<5.0	<5.0
4-Methyl-2-pentanone	<500	<500	<100(D)	NA	<50.0	<50.0
2-Hexanone	<50	<500	<100(D)	NA	<5.0	<50.0
Tetrachloroethene	<50	<50	<100(D)	3.47(J)	252	<5.0
Toluene	3570	2830	728	396	5.1	7.8
1,1,2,2-Tetrachloroethane	4814(J)	38.2(J)	<100(D)	33.2	103	9.6
Chlorobenzene	114	93.3	<100(D)	28.1	64.4	14.3
Ethylbenzene	45.1(J)	31.8(J)	<100(D)	16.4	<5.0	8.9
Styrene	<50	<50	<100(D)	NA	<5.0	<5.0
Total Xylene	58.4	47.6(J)	<200(D)	NA	125	28.1
Total VOCs	6470	4864	9925	2427.37	1506	182.4
METALS						
Lead	NA	NA	NA	3.44	4.32	<2.0
Arsenic	NA	NA	NA	3.67(B)	2.22(B)	10.9

NOTES:
Analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
NA - Not Analyzed
EPA Method 8240 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(B) - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.
(D) - Analyses at a secondary dilution
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
Sample LS-3-01D is a duplicate of sample LS-3-01.

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(6)-04	LS-3(6)-05	LS-3(6)-06	LS-3(6)-07	LS-3(6)-07D	LS-3(6)-08
Lab Sample No.	D96-11901-1	D96-13518-1	D97-6478-5	E921-67690	E921-67696	I607-93001
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	10/21/96	11/25/96	5/27/97	6/22/98	6/22/98	10/28/98
Compound (ug/l) VOLATILES	(1)(*)	(1)(*)	(1)(*)	(2)(**)	(2)(**)	(2)(**)
Chloromethane	<10.0	<10.0	<50.0(D)	<120	<120	<120
Bromomethane	<10.0	<10.0	<50.0(D)	<120	<120	<120
Vinyl chloride	21.8	41.1	<50.0(D)	<120	<120	<120
Chloroethane	<10.0	<10.0	<50.0(D)	<120	<120	<120
Methylene chloride	<5.0	<5.0	<25.0(D)	<75	<75	<75
Acetone	<100	<100	<500(D)	<120	<120	<120
Carbon disulfide	<5.0	<5.0	<25.0(D)	<120	<120	<120
1,1-Dichloroethene	<5.0	<5.0	<25.0(D)	<50	<50	<50
1,1-Dichloroethane	<5.0	<5.0	<25.0(D)	<120	<120	<120
cis -1,2-Dichloroethene	<5.0	<5.0	<25.0(D)	<120	<120	<120
trans-1,2-Dichloroethen	<5.0	<5.0	<25.0(D)	<120	<120	<120
Chloroform	<5.0	<5.0	<25.0(D)	<120	<120	<120
1,2-Dichloroethane	<5.0	<5.0	<25.0(D)	<50	<50	<50
2-Butanone	<50.0	<50.0	<250(D)	<120	<120	<120
1,1,1-Trichloroethane	<5.0	<5.0	<25.0(D)	<120	<120	<120
Carbon tetrachloride	<5.0	<5.0	<25.0(D)	<50	<50	<50
Bromodichloromethane	<5.0	<5.0	<25.0(D)	<25	<25	<25
1,2-Dichloropropane	<5.0	<5.0	<25.0(D)	<25	<25	<25
cis-1,3-Dichloropropene	<5.0	<5.0	<25.0(D)	<120	<120	<120
Trichloroethene	<5.0	<5.0	<25.0(D)	<25	<25	<25
Chlorodibromomethane	<5.0	<5.0	<25.0(D)	<120	<120	<120
1,1,2-Trichloroethane	<5.0	<5.0	<25.0(D)	<75	<75	<75
Benzene	296	1660(D)	1100(D)	2600	3000	3500
trans-1,2-Dichloroprope	<5.0	<5.0	<25.0(D)	<120	<120	<120
Bromoform	<5.0	<5.0	<25.0(D)	<100	<100	<100
4-Methyl-2-pentanone	<50.0	<50.0	<250(D)	<120	<120	<120
2-Hexanone	<50.0	<50.0	<250(D)	<120	<120	<120
Tetrachloroethene	<5.0	<5.0	<25.0(D)	<25	<25	<25
Toluene	5.1	17.2	39.5(D)	<25	200	30(J)
1,1,2,2-Tetrachloroetha	<5.0	<5.0	<25.0(D)	110(J)	<25	<25
Chlorobenzene	8.9	97.0	<25.0(D)	79(J)	100(J)	120(J)
Ethylbenzene	<5.0	41.0	<25.0(D)	20(J)	24(J)	31(J)
Styrene	<5.0	<5.0	<25.0(D)	<120	<120	<120
Total Xylenes	<10.0	32.5	<50.0(D)	<120	<120	<120
Total VOCs	332	1889	1140	2809	3324	3681
METALS						
Lead	3.11	3.7	2.9	<2.5	<2.5	<2.5
Arsenic	<0.9	1.8	<5.0	<3.8	<3.8	<3.8

* - Analyses performed by Inchcape Testing Services; Laboratory Certification No. 82716
** - Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
N/A - Not Applicable
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(D) - Indicates an analysis at a secondary dilution.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
Sample LS-3(6)-07D is a duplicate of sample LS-3(6)-07

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3-01	LS-3-01D	LS-3(6)-02	LS-3-01	LS-3(6)-02	LS-3(6)-03
Lab Sample No.	D96-5796-1	D96-5796-2	D96-7495-1	D96-7981-1	D96-9195-1	D96-10438-1
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	5/29/96	5/29/96	7/10/96	7/18/96	8/19/96	9/18/96
Compound (ug/l) BNAs						
N-Nitrosodimethylamine	NA	NA	NA	<10.0	<5.0	<5.0
Phenol	NA	NA	NA	47.6	<1.5	<1.5
Bis(2-chloroethyl)ether	NA	NA	NA	<10.0	<5.7	<5.7
2-Chlorophenol	NA	NA	NA	1.33(J)	<3.3	<3.3
1,3-Dichlorobenzene	NA	NA	NA	3.87(J)	<1.9	2.3
1,4-Dichlorobenzene	NA	NA	NA	<4.4	16.3	4.6
1,2-Dichlorobenzene	NA	NA	NA	16.8	74.9	5.5
Bis(2-chloroisopropyl)ether	NA	NA	NA	<10.0	<5.7	<5.7
Hexachloroethane	NA	NA	NA	<10.0	<1.6	<1.6
Nitrobenzene	NA	NA	NA	<10.0	<1.9	<1.9
Isophorone	NA	NA	NA	<10.0	<2.2	<2.2
2,4-Dimethylphenol	NA	NA	NA	<10.0	12.7	<2.7
2-Nitrophenol	NA	NA	NA	<10.0	<3.8	<3.8
2,4-Dichlorophenol	NA	NA	NA	<10.0	<2.7	<2.7
1,2,4-Trichlorobenzene	NA	NA	NA	1.44(J)	6.4	1.6(J)
Naphthalene	NA	NA	NA	2.12(J)	<1.8	<1.8
Hexachlorobutadiene	NA	NA	NA	<0.9	<0.9	<0.9
Hexachlorocyclopentadiene	NA	NA	NA	<10.0	<5.0	<5.0
2,4,6-Trichlorophenol	NA	NA	NA	<10.0	<2.7	<2.7
Dimethylphthalate	NA	NA	NA	<10.0	<1.8	<1.8
2,6-Dinitrotoluene	NA	NA	NA	<10.0	<1.9	<1.9
Acenaphthylene	NA	NA	NA	<10.0	<3.5	<3.5
2,4-Dinitrophenol	NA	NA	NA	<50.0	<42.0	<42.0
4-Nitrophenol	NA	NA	NA	<50.0	<3.8	<3.8
2,4-Dinitrotoluene	NA	NA	NA	<10.0	<5.7	<5.7
Diethylphthalate	NA	NA	NA	<10.0	6.6	<1.9
Fluorene	NA	NA	NA	<10.0	<1.9	<1.9
4,6-Dinitro-2-methylphenol	NA	NA	NA	<50.0	<24.0	<24.0
N-Nitrosodiphenylamine	NA	NA	NA	<10.0	<1.9	<1.9
Hexachlorobenzene	NA	NA	NA	<10.0	<1.9	<1.9
Pentachlorophenol	NA	NA	NA	<50.0	<3.5	<3.5
Phenanthrene	NA	NA	NA	<10.0	<5.4	<5.4
Anthracene	NA	NA	NA	<10.0	<1.9	<1.9
Di-n-butylphthalate	NA	NA	NA	<10.0	<2.5	<2.5

NOTES:
Analyses performed by Inchcape Testing Services; Laboratory Certification No. 82716
Lab Certification No. 82716
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extratables (BNAs)
(J) - Indicates an estimated value. This flag is used if the compound is detected but below the reporting limit.

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(6)-04	LS-3(6)-05	LS-3(6)-06	LS-3(6)-07	LS-3(6)-07D	LS-3(6)-08
Lab Sample No.	D96-11901-1	D96-13518-1	D97-6478-5	E921-67690	E921-67696	I607-93001
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	10/21/96	11/25/96	5/27/97	6/22/98	6/22/98	10/28/98
Compound (ug/l) BNAs	(*)	(*)	(*)	(**)	(**)	(**)
N-Nitrosodimethylamine	<5.6	<5.0	<5.2	<6.6	<6.9	<14
Phenol	<1.7	25.2	23.4	43	22	<27
Bis(2-chloroethyl)ether	<6.3	<5.7	<5.9	<8.8	<9.3	<18
2-Chlorophenol	<3.7	<3.3	<3.4	<28	<29	<57
1,3-Dichlorobenzene	<2.1	<1.9	<2.0	<9.6	<10	<20
1,4-Dichlorobenzene	<4.8	<4.4	<4.5	<11	<11	<22
1,2-Dichlorobenzene	10.2	23.0	10.3	<9.4	<9.9	<18
Bis(2-chloroisopropyl)ether	<6.3	<5.7	<5.9	<8.2	<8.6	<17
Hexachloroethane	<1.8	<1.6	<1.6	<7.8	<8.2	<16
Nitrobenzene	<2.1	<1.9	<2.0	<9.6	<10	<20
Isophorone	<2.4	<2.2	<2.3	<8.2	<8.6	<17
2,4-Dimethylphenol	<3.0	<2.7	<2.8	<28	<41	<58
2-Nitrophenol	<4.2	<3.8	<3.9	<27	<28	<55
2,4-Dichlorophenol	<3.0	<2.7	<2.8	<28	<30	<58
1,2,4-Trichlorobenzene	<2.1	<1.9	<2.0	<12	<12	<23
Naphthalene	<2.0	<1.8	<1.9	<9.6	<10	<20
Hexachlorobutadiene	<1.0	<0.9	<0.9	<5.6	<5.9	<11
Hexachlorocyclopentadiene	<5.6	<5.0	<5.2	<4.2	<4.4	<8.6
2,4,6-Trichlorophenol	<3.0	<2.7	<2.8	<25	<26	<52
Dimethylphthalate	<2.0	<1.8	<1.9	<4.8	81	<9.9
2,6-Dinitrotoluene	<2.1	<1.9	<2.0	<4.0	<4.2	<8.0
Acenaphthylene	<3.9	<3.5	<3.6	<6.2	<6.9	<12
2,4-Dinitrophenol	<46.6	<42.0	<43.3	<12	<12	<26
4-Nitrophenol	<4.2	<3.8	<3.9	<6.6	<6.9	<14
2,4-Dinitrotoluene	<6.3	<5.7	<5.9	<5.4	<5.7	<11
Diethylphthalate	<2.1	<1.9	<2.0	<2.8	<2.9	<5.8
Fluorene	<2.1	<1.9	<2.0	<5.2	<5.5	<10
4,6-Dinitro-2-methylphenol	<26.6	<24.0	<24.7	<23	<24	<43
N-Nitrosodiphenylamine	<2.1	<1.9	<2.0	<3.8	<4.0	<8.0
Hexachlorobenzene	<2.1	<1.9	<2.0	<4.4	<4.6	<9.1
Pentachlorophenol	<3.9	<3.5	<3.6	<27	<29	<56
Phenanthrene	<6.0	<5.4	<5.6	<2.8	<2.9	<5.8
Anthracene	<2.1	<1.9	<2.0	<2.8	<2.9	<5.8
Di-n-butylphthalate	<2.8	<2.5	<2.6	<3.0	<3.2	<6.0

Notes:
(*) Analyses performed by Intertek Testing Service; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
Sample LS-3(6)-07D is a duplicate of sample LS-3(6)-07

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3-01	LS-3-01D	LS-3(6)-02	LS-3-01	LS-3(6)-02	LS-3(6)-03
Lab Sample No.	D96-5796-1	D96-5796-2	D96-7495-1	D96-7981-1	D96-9195-1	D96-10438-1
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	5/29/96	5/29/96	7/10/96	7/18/96	8/19/96	9/18/96
Compound (ug/l)						
BNAs						
Fluoranthene	NA	NA	NA	1.44(J)	<2.2	<2.2
Benzidine	NA	NA	NA	<50.0	<5.7	<5.7
Pyrene	NA	NA	NA	<10.0	<1.9	<1.9
Butylbenzylphthalate	NA	NA	NA	<10.0	<2.5	<2.5
bis(2-Ethylhexyl)phthalate	NA	NA	NA	<10.0	<2.5	<2.5
3,3'Dichlorobenzidine	NA	NA	NA	<20.0	<16.5	<16.5
Benzo(a)anthracene	NA	NA	NA	<10.0	<7.8	<7.8
Chrysene	NA	NA	NA	<10.0	<2.5	<2.5
Benzo(b)fluroanthene	NA	NA	NA	<10.0	<4.8	<4.8
Benzo(k)fluoranthene	NA	NA	NA	<10.0	<2.5	<2.5
Benzo(a)pyrene	NA	NA	NA	<10.0	<2.5	<2.5
Indeno(1,2,3-cd)pyrene	NA	NA	NA	<10.0	<3.7	<3.7
Dibenzo(a,h)anthracene	NA	NA	NA	<10.0	<2.5	<2.5
Benzo(g,h,i)perylene	NA	NA	NA	<10.0	<4.1	<4.1
1,2,4,5-Tetrachlorobenzene	NA	NA	NA	<10.0	<10.0	<10.0
Pentachlorobenzene	NA	NA	NA	<10.0	<10.0	<10.0
PCBs						
Aroclor 1016	NA	NA	NA	<0.500	<0.50	<0.500
Aroclor 1221	NA	NA	NA	<0.500	<0.50	<0.500
Aroclor 1232	NA	NA	NA	<0.500	<0.50	<0.500
Aroclor 1242	NA	NA	NA	<0.500	<0.50	<0.500
Aroclor 1248	NA	NA	NA	<0.500	<0.50	<0.500
Aroclor 1254	NA	NA	NA	<0.500	<0.50	<0.500
Aroclor 1260	NA	NA	NA	<0.500	<0.50	<0.500
DISSOLVED PCBs						
Aroclor 1016	NA	NA	NA	NA	NA	NA
Aroclor 1221	NA	NA	NA	NA	NA	NA
Aroclor 1232	NA	NA	NA	NA	NA	NA
Aroclor 1242	NA	NA	NA	NA	NA	NA
Aroclor 1248	NA	NA	NA	NA	NA	NA
Aroclor 1254	NA	NA	NA	NA	NA	NA
Aroclor 1260	NA	NA	NA	NA	NA	NA

NOTES:
Analyses performed by Inchcape Testing Services; NJDEp Laboratory Certification No. 82716
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(J) - Indicates an estimated value. This flag is used if the compound is detected but below the Reporting Limit.

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(6)-04	LS-3(6)-05	LS-3(6)-06	LS-3(6)-07	LS-3(6)-07D	LS-3(6)-08
Lab Sample No.	D96-11901-1	D96-13518-1	D97-6478-5	E921-67690	E921-67696	I607-93001
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	10/21/96	11/25/96	5/27/97	6/22/98	6/22/98	10/28/98
Compound (ug/l) VOLATILES	(1)(*)	(1)(*)	(1)(*)	(2)(**)	(2)(**)	(2)(**)
Chloromethane	<10.0	<10.0	<50.0(D)	<120	<120	<120
Bromomethane	<10.0	<10.0	<50.0(D)	<120	<120	<120
Vinyl chloride	21.8	41.1	<50.0(D)	<120	<120	<120
Chloroethane	<10.0	<10.0	<50.0(D)	<120	<120	<120
Methylene chloride	<5.0	<5.0	<25.0(D)	<75	<75	<75
Acetone	<100	<100	<500(D)	<120	<120	<120
Carbon disulfide	<5.0	<5.0	<25.0(D)	<120	<120	<120
1,1-Dichloroethene	<5.0	<5.0	<25.0(D)	<50	<50	<50
1,1-Dichloroethane	<5.0	<5.0	<25.0(D)	<120	<120	<120
cis -1,2-Dichloroethene	<5.0	<5.0	<25.0(D)	<120	<120	<120
trans-1,2-Dichloroethen	<5.0	<5.0	<25.0(D)	<120	<120	<120
Chloroform	<5.0	<5.0	<25.0(D)	<120	<120	<120
1,2-Dichloroethane	<5.0	<5.0	<25.0(D)	<50	<50	<50
2-Butanone	<50.0	<50.0	<250(D)	<120	<120	<120
1,1,1-Trichloroethane	<5.0	<5.0	<25.0(D)	<120	<120	<120
Carbon tetrachloride	<5.0	<5.0	<25.0(D)	<50	<50	<50
Bromodichloromethane	<5.0	<5.0	<25.0(D)	<25	<25	<25
1,2-Dichloropropane	<5.0	<5.0	<25.0(D)	<25	<25	<25
cis-1,3-Dichloropropene	<5.0	<5.0	<25.0(D)	<120	<120	<120
Trichloroethene	<5.0	<5.0	<25.0(D)	<25	<25	<25
Chlorodibromomethane	<5.0	<5.0	<25.0(D)	<120	<120	<120
1,1,2-Trichloroethane	<5.0	<5.0	<25.0(D)	<75	<75	<75
Benzene	296	1660(D)	1100(D)	2600	3000	3500
trans-1,2-Dichloroprope	<5.0	<5.0	<25.0(D)	<120	<120	<120
Bromoform	<5.0	<5.0	<25.0(D)	<100	<100	<100
4-Methyl-2-pentanone	<50.0	<50.0	<250(D)	<120	<120	<120
2-Hexanone	<50.0	<50.0	<250(D)	<120	<120	<120
Tetrachloroethene	<5.0	<5.0	<25.0(D)	<25	<25	<25
Toluene	5.1	17.2	39.5(D)	<25	200	30(J)
1,1,2,2-Tetrachloroetha	<5.0	<5.0	<25.0(D)	110(J)	<25	<25
Chlorobenzene	8.9	97.0	<25.0(D)	79(J)	100(J)	120(J)
Ethylbenzene	<5.0	41.0	<25.0(D)	20(J)	24(J)	31(J)
Styrene	<5.0	<5.0	<25.0(D)	<120	<120	<120
Total Xylenes	<10.0	32.5	<50.0(D)	<120	<120	<120
Total VOCs	332	1889	1140	2809	3324	3681
METALS						
Lead	3.11	3.7	2.9	<2.5	<2.5	<2.5
Arsenic	<0.9	1.8	<5.0	<3.8	<3.8	<3.8

* - Analyses performed by Inchcape Testing Services; Laboratory Certification No. 82716
** - Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
N/A - Not Applicable
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(D) - Indicates an analysis at a secondary dilution.
(J) - Indicates an estimated value. This flag Is used if the compound is detected but is below the Reporting Limit.
Sample LS-3(6)-07D is a duplicate of sample LS-3(6)-07

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(6)-04	LS-3(6)-05	LS-3(6)-06	LS-3(6)-07	LS-3(6)-07D	LS-3(6)-08
Lab Sample No.	D96-11901-1	D96-13518-1	D97-6478-5	E921-67690	E921-67696	I607-93001
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	10/21/96	11/25/96	5/27/97	6/22/98	6/22/98	10/28/98
Compound (ug/l) BNAs	(*)	(*)	(*)	(**)	(**)	(**)
N-Nitrosodimethylamine	<5.6	<5.0	<5.2	<6.6	<6.9	<14
Phenol	<1.7	25.2	23.4	43	22	<27
Bis(2-chloroethyl)ether	<6.3	<5.7	<5.9	<8.8	<9.3	<18
2-Chlorophenol	<3.7	<3.3	<3.4	<28	<29	<57
1,3-Dichlorobenzene	<2.1	<1.9	<2.0	<9.6	<10	<20
1,4-Dichlorobenzene	<4.8	<4.4	<4.5	<11	<11	<22
1,2-Dichlorobenzene	10.2	23.0	10.3	<9.4	<9.9	<18
Bis(2-chloroisopropyl)ether	<6.3	<5.7	<5.9	<8.2	<8.6	<17
Hexachloroethane	<1.8	<1.6	<1.6	<7.8	<8.2	<16
Nitrobenzene	<2.1	<1.9	<2.0	<9.6	<10	<20
Isophorone	<2.4	<2.2	<2.3	<8.2	<8.6	<17
2,4-Dimethylphenol	<3.0	<2.7	<2.8	<28	<41	<58
2-Nitrophenol	<4.2	<3.8	<3.9	<27	<28	<55
2,4-Dichlorophenol	<3.0	<2.7	<2.8	<28	<30	<58
1,2,4-Trichlorobenzene	<2.1	<1.9	<2.0	<12	<12	<23
Naphthalene	<2.0	<1.8	<1.9	<9.6	<10	<20.
Hexachlorobutadiene	<1.0	<0.9	<0.9	<5.6	<5.9	<11
Hexachlorocyclopentadiene	<5.6	<5.0	<5.2	<4.2	<4.4	<8.6
2,4,6-Trichlorophenol	<3.0	<2.7	<2.8	<25	<26	<52
Dimethylphthalate	<2.0	<1.8	<1.9	<4.8	81	<9.9
2,6-Dinitrotoluene	<2.1	<1.9	<2.0	<4.0	<4.2	<8.0
Acenaphthylene	<3.9	<3.5	<3.6	<6.2	<6.9	<12
2,4-Dinitrophenol	<46.6	<42.0	<43.3	<12	<12	<26
4-Nitrophenol	<4.2	<3.8	<3.9	<6.6	<6.9	<14
2,4-Dinitrotoluene	<6.3	<5.7	<5.9	<5.4	<5.7	<11
Diethylphthalate	<2.1	<1.9	<2.0	<2.8	<2.9	<5.8
Fluorene	<2.1	<1.9	<2.0	<5.2	<5.5	<10
4,6-Dinitro-2-methylphenol	<26.6	<24.0	<24.7	<23	<24	<43
N-Nitrosodiphenylamine	<2.1	<1.9	<2.0	<3.8	<4.0	<8.0
Hexachlorobenzene	<2.1	<1.9	<2.0	<4.4	<4.6	<9.1
Pentachlorophenol	<3.9	<3.5	<3.6	<27	<29	<56
Phenanthrene	<6.0	<5.4	<5.6	<2.8	<2.9	<5.8
Anthracene	<2.1	<1.9	<2.0	<2.8	<2.9	<5.8
Di-n-butylphthalate	<2.8	<2.5	<2.6	<3.0	<3.2	<6.0

Notes:
(*) Analyses performed by Intertek Testing Service; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
Sample LS-3(6)-07D is a duplicate of sample LS-3(6)-07

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(6)-04	LS-3(6)-05	LS-3(6)-06	LS-3(6)-07	LS-3(6)-07D	LS-3(6)-08
Lab Sample No.	D96-11901-1	D96-13518-1	D97-6478-5	E921-67690	E921-67696	I607-93001
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	10/21/96	11/25/96	5/27/97	6/22/98	6/22/98	10/28/98
Compound (ug/l)						
BNAs			(*)	(**)	(**)	(**)
Fluoranthene	<2.4	<2.2	<2.3	<2.6	<2.7	<5.4
Benzidine	<6.3	<5.7	<5.9	<190	<200	<400
Pyrene	<2.1	<1.9	<2.0	<1.8	<1.9	<3.5
Butylbenzylphthalate	<2.8	<2.5	<2.6	<5.4	<5.7	<11
bis(2-Ethylhexyl)phthalate	<2.8	<2.5	<2.6	<11	<11	<22
3,3'Dichlorobenzidine	<18.3	<16.5	<17.0	<16	<17	<34
Benzo(a)anthracene	<8.7	<7.8	<8.0	<2.0	<2.1	<4.1
Chrysene	<2.8	<2.5	<2.6	<2.6	<2.7	<5.4
Benzo(b)fluroanthene	<5.3	<4.8	<4.9	<1.0	<1.0	<2.1
Benzo(k)fluoranthene	<2.8	<2.5	<2.6	<1.6	<1.7	<3.1
Benzo(a)pyrene	<2.8	<2.5	<2.6	<1.4	<1.5	<3.1
Indeno(1,2,3-cd)pyrene	<4.1	<3.7	<3.8	<1.4	<1.5	<3.1
Dibenzo(a,h)anthracene	<2.8	<2.5	<2.6	<2.0	<2.1	<4.3
Benzo(g,h,i)perylene	<4.6	<4.1	<4.2	<1.0	<1.0	<2.3
1,2,4,5-Tetrachlorobenzene	<11.1	<10.0	<10.3	<200	<210	<410
Pentachlorobenzene	<11.1	<10.0	<10.3	<200	<210	<410
PCBs						
Aroclor 1016	<0.500	<0.500	<0.500	<0.30	<0.30	<0.30
Aroclor 1221	<0.500	<0.500	<0.500	<0.40	<0.40	<0.30
Aroclor 1232	<0.500	<0.500	<0.500	<0.30	<0.30	<0.40
Aroclor 1242	<0.500	<0.500	<0.500	<0.30	<0.30	<0.20
Aroclor 1248	<0.500	<0.500	0.60	<0.30	<0.30	<0.30
Aroclor 1254	<0.500	<0.500	<0.500	<0.40	<0.40	<0.40
Aroclor 1260	<0.500	<0.500	<0.500	<0.20	<0.20	<0.20
DISSOLVED PCBs				(1)	(2)	(3)
Aroclor 1016	NA	NA	NA	<0.30	<0.30	<0.30
Aroclor 1221	NA	NA	NA	<0.40	<0.40	<0.30
Aroclor 1232	NA	NA	NA	<0.30	<0.30	<0.40
Aroclor 1242	NA	NA	NA	<0.30	<0.30	<0.20
Aroclor 1248	NA	NA	NA	<0.30	<0.30	<0.30
Aroclor 1254	NA	NA	NA	<0.40	<0.40	<0.40
Aroclor 1260	NA	NA	NA	<0.20	<0.20	<0.20

Notes:
(*) - Analyses performed by Inchape Testing Service; NJDEP Laboratory Certification No. 82716
(**) - Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
Sample LS-3(6)-07D is a duplicate of sample LS-3(6)-07
(1) This data provided in Envirotech report E921-67700
(2) This data provided in Envirotech report E921-67706
(3) This data provided in Envirotech report I607-93010
Sample LS-3(6)-07D is a duplicate of sample LS-3(6)-07

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(8)-01	LS-3(8)-02	LS-3(8)-03	LS-3(8)-04	LS-3(8)-04D
Lab Sample No.	D97-4155-7	D97-9080-3	E921-67691	F763-73121	F763-73122
Depth (feet)	N/A	N/A	N/A	N/A	NA
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	04/04/97	7/23/97	6/22/98	7/22/98	7/22/98
Compound (ug/l) VOLATILES	(1)(*)	(1)(*)	(2)(**)	(2)(**)	(2)(**)
Chloromethane	<10.0	<10.0	<25	<25	<25
Bromomethane	<10.0	<10.0	<25	<25	<25
Vinyl chloride	409	<10.0	210	27	26
Chloroethane	<10.0	<10.0	<25	<25	<25
Methylene chloride	6.5	<5.0	<15	<15	<15
Acetone	377	<100	<25	<25	<25
Carbon disulfide	9.0	<5.0	37	<25	<25
1,1-Dichloroethene	8.6	<5.0	4.3(J)	<10	<10
1,1-Dichloroethane	<5.0	<5.0	<25	<25	<25
cis -1,2-Dichloroethene	2470(D)	<5.0	29	<25	<25
trans-1,2-Dichloroethene	87.1	<5.0	680	<25	<25
Chloroform	<5.0	<5.0	<25	<25	<25
1,2-Dichloroethane	<5.0	<5.0	<10	<10	<10
2-Butanone	<50.0	<50.0	<25	<25	<25
1,1,1-Trichloroethane	<5.0	<5.0	<25	<25	<25
Carbon tetrachloride	<5.0	<5.0	<10	<10	<10
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<25	<25	<25
Trichloroethene	10.1	<5.0	16	<5.0	<5.0
Chlorodibromomethane	<5.0	<5.0	<25	<25	<25
1,1,2-Trichloroethane	<5.0	<5.0	<15	<15	<15
Benzene	2770(D)	744(D)	680	780	610
trans-1,3-Dichloropropene	<5.0	<5.0	<25	<25	<25
Bromoform	<5.0	<5.0	<20	<20	<20
4-Methyl-2-Pentanone	<50.0	<50.0	<25	<25	<25
2-Hexanone	<50.0	<50.0	<25	<25	<25
Tetrachloroethene	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	7790(D)	<5.0	200	15(J)	12(J)
1,1,2,2-Tetrachloroethane	5.1	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	454	556(D)	210	580	460
Ethylbenzene	282	<5.0	44	190	160
Styrene	<5.0	<5.0	<25	<25	<25
Total Xylenes	1464(D)	84	96	110	86
Total VOCs	16,142	1384	2206	1702	1354
METALS					
Lead	1.7(B)	7.7	<2.5	<3.8	<5.0
Arsenic	<4.8	3.6	<3.8	<2.5	<3.8

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Certification No. 12543
N/A - Not Applicable
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(B) - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.
(D) - Analysis run at a secondary dilution
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
Sample LS-3(8)-04D is a duplicate of sample LS-3(8)-04

TABLE A-8 (CONT'D0
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(8)-01	LS-3(8)-02	LS-3(8)-03	LS-3(8)-04	LS-3(8)-04D
Lab Sample No.	D97-4155-7	D97-9080-3	E921-67691	F763-73121	F763-73122
Depth (feet)	N/A	N/A	N/A	N/A	NA
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	04/04/97	7/23/97	6/22/98	7/22/98	7/22/98
Compound (ug/l) BNAs	(*)	(*)	(**)	(**)	(**)
N-Nitrosodimethylamine	<5.0	<5.6	<3.3	<3.6	<3.7
Phenol	578	<1.7	7.4	<5.7	<5.8
Bis(2-chloroethyl)ether	<5.7	<6.4	<4.4	<6.3	<6.5
2-Chlorophenol	<3.3	<3.7	<14	<11	<11
1,3-Dichlorobenzene	6.3	<2.1	<4.8	<18	<18
1,4-Dichlorobenzene	27.5	10.5	<5.4	<18	<18
1,2-Dichlorobenzene	462	34.0	59	89	95.
Bis(2-chloroisopropyl)ether	<5.7	<6.4	<4.1	<7.1	<7.3
Hexachloroethane	<1.6	<1.8	<3.9	<12	<13
Nitrobenzene	<1.9	<2.1	<4.8	<7.6	<7.9
Isophorone	<2.2	<2.5	<4.1	<8.6	<8.9
2,4-Dimethylphenol	<2.7	<3.0	<14	<14	<15
2-Nitrophenol	<3.8	<4.3	<14	<16	<16
2,4-Dichlorophenol	<2.7	<3.0	<14	<15	<16
1,2,4-Trichlorobenzene	2.1	<2.1	<5.8	<19	<20
Naphthalene	23.2	5.8	<4.8	<13	<13
Hexachlorobutadiene	<0.9	<1.0	<2.8	<11	<11
Hexachlorocyclopentadiene	<5.0	<5.6	<2.1	<8.4	<8.6
2,4,6-Trichlorophenol	<2.7	<3.0	<13	<16	<16
Dimethylphthalate	<1.8	<2.0	<2.4	<6.5	<6.7
2,6-Dinitrotoluene	<1.9	<2.1	<2.0	<7.6	<7.9
Acenaphthylene	<3.5	<3.9	<3.3	<14	<11
2,4-Dinitrophenol	<42.0	<47.0	<5.9	<29	<30
4-Nitrophenol	<3.8	<4.3	<3.3	<6.1	<6.3
2,4-Dinitrotoluene	<5.7	<6.4	<2.7	<7.6	<7.9
Diethylphthalate	<1.9	<2.1	<1.4	<6.0	<6.2
Fluorene	<1.9	<2.1	<2.6	<10	<10
4,6-Dinitro-2-methylphenol	<24.0	<26.9	<11	<21	<21
N-Nitrosodiphenylamine	<1.9	<2.1	<1.9	<5.7	<5.8
Hexachlorobenzene	<1.9	<2.1	<2.2	<6.4	<6.6
Pentachlorophenol	<3.5	<3.9	<14	<13	<13
Phenanthrene	<5.4	<6.0	<1.4	<5.4	<5.5
Anthracene	<1.9	<2.1	<1.4	<5.7	<5.8
Di-n-butylphthalate	<2.5	<2.8	<1.5	<4.9	<5.1

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEp Laboratory Certification No. 12543
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
Sample LS-3(8)-04D is a dulpicate of sample LS-3(8)-04

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(8)-01	LS-3(8)-02	LS-3(8)-03	LS-3(8)-04	LS-3(8)-04D
Lab Sample No.	D97-4155-7	D97-9080-3	E921-67691	F763-73121	F763-73121
Depth (feet)	N/A	N/A	N/A	N/A	NA
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	04/04/97	7/23/97	6/22/98	7/22/98	7/22/98
Compound (ug/l)					
BNAs	(*)	(*)	(**)	(**)	(**)
Fluoranthene	4.1	<2.5	<1.3	<5.7	<5.8
Benzidine	<5.7	<6.4	<97	<2.6	<2.6
Pyrene	2.2	<2.1	<0.9	<3.1	<3.2
Butylbenzylphthalate	<2.5	<2.8	<2.7	<3.4	<3.5
bis(2-Ethylhexyl)phthalate	<2.5	<2.8	<5.4	<5.9	<6.1
3,3'-Dichlorobenzidine	<16.5	<18.5	<8.2	<7.4	<7.6
Benzo(a)anthracene	<7.8	<8.7	<1.0	<4.3	<4.5
Chrysene	<2.5	<2.8	<1.3	<4.4	<4.6
Benzo(b)fluroanthene	<4.8	<5.4	<0.5	<3.8	<3.9
Benzo(k)fluoranthene	<2.5	<2.8	<0.8	<4.7	<4.9
Benzo(a)pyrene	<2.5	<2.8	<0.7	<4.1	<4.2
Indeno(1,2,3-cd)pyrene	<3.7	<4.1	<0.7	<3.6	<3.7
Dibenzo(a,h)anthracene	<2.5	<2.8	<1.0	<4.3	<4.5
Benzo(g,h,i)perylene	<4.1	<4.6	<0.5	<3.8	<3.9
1,2,4,5-Tetrachlorobenzene	<10.0	<11.2	<100	<100	<110
Pentachlorobenzene	<10.0	<11.2	<100	<100	<110
PCBs					
Aroclor 1016	<0.500	<0.500	<0.30	<0.30	<0.30
Aroclor 1221	<0.500	<0.500	<0.40	<0.40	<0.40
Aroclor 1232	<0.500	<0.500	<0.30	<0.30	<0.30
Aroclor 1242	<0.500	<0.500	<0.30	<0.30	<0.30
Aroclor 1248	2.04	0.700	1.3	1.0	1.4
Aroclor 1254	<0.500	<0.500	<0.40	<0.40	<0.40
Aroclor 1260	<0.500	<0.500	<0.20	<0.20	<0.20
DISSOLVED PCBs			(1)	(2)	(3)
Aroclor 1016	NA	NA	<0.30	<0.30	<0.30
Aroclor 1221	NA	NA	<0.40	<0.40	<0.40
Aroclor 1232	NA	NA	<0.30	<0.30	<0.30
Aroclor 1242	NA	NA	<0.30	<0.30	<0.30
Aroclor 1248	NA	NA	<0.30	<0.30	<0.30
Aroclor 1254	NA	NA	<0.40	<0.40	<0.40
Aroclor 1260	NA	NA	<0.20	<0.20	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEp Laboratory Certification No. 82716
(**) Analyses performed by Envirotech research, Inc.; NJDEp Certification No. 12543
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) The Lab Sample No. for this analysis is E921-67701
(2) The Lab Sample No. for this analysis is F763-73130
(3) The Lab Sample for this analysis is F763-73131

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**LS-3(9)-01**
Lab Sample No.	**D97-6478-6**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**5/27/97**
Compound (ug/l)	
VOLATILES	
Chloromethane	<50.0(D)
Bromomethane	<50.0(D)
Vinyl chloride	<50.5(D)
Chloroethane	<50.0(D)
Methylene chloride	<25.0(D)
Acetone	<500(D)
Carbon disulfide	<25.0(D)
1,1-Dichloroethene	<25.0(D)
1,1-Dichloroethane	<25.0(D)
cis -1,2-Dichloroethene	218(D)
trans-1,2-Dichloroethene	<25.0(D)
Chloroform	<25.0(D)
1,2-Dichloroethane	<25.0(D)
2-Butanone	<250(D)
1,1,1-Trichloroethane	<25.0(D)
Carbon tetrachloride	<25.0(D)
Bromodichloromethane	<25.0(D)
1,2-Dichloropropane	<25.0(D)
cis-1,3-Dichloropropene	<25.0(D)
Trichloroethene	<25.0(D)
Chlorodibromomethane	<25.0(D)
1,1,2-Trichloroethane	<25.0(D)
Benzene	1130(D)
trans-1,3-Dichloropropene	<25.0(D)
Bromoform	<25.0(D)
4-Methyl-2-pentanone	<250(D)
2-Hexanone	<250(D)
Tetrachloroethene	<25.0(D)
Toluene	306(D)
1,1,2,2-Tetrachloroethane	<25.0(D)
Chlorobenzene	548(D)
Ethylbenzene	155(D)
Styrene	<25.0(D)
Total Xylenes	243(D)
Total VOCs	2650(D)
METALS	
Lead	54.8
Arsenic	<5.0

Notes:
Analyses performed by Inchape Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 8040 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(D) - Indicates analyses at a secondary dilution

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(9)-01
Lab Sample No.	D97-6478-6
Depth (feet)	N/A
Type	AQUEOUS
Date Collected	5/27/97
Compound (ug/l)	
BNAs	
N-Nitrosodimethylamine	<5.5
Phenol	17.4
Bis(2-chloroethyl)ether	<6.3
2-Chlorophenol	<3.6
1,3-Dichlorobenzene	13.9
1,4-Dichlorobenzene	29.8
1,2-Dichlorobenzene	87.8
Bis(2-chloroisopropyl)ether	<6.3
Hexachloroethane	<1.8
Nitrobenzene	<2.1
Isophorone	<2.4
2,4-Dimethylphenol	<3.0
2-Nitrophenol	<4.2
2,4-Dichlorophenol	<3.0
1,2,4-Trichlorobenzene	<2.1
Naphthalene	<2.0
Hexachlorobutadiene	<1.0
Hexachlorocyclopentadiene	<5.5
2,4,6-Trichlorophenol	<3.0
Dimethylphthalate	<2.0
2,6-Dinitrotoluene	<2.1
Acenaphthylene	<3.9
2,4-Dinitrophenol	<46.2
4-Nitrophenol	<4.2
2,4-Dinitrotoluene	<6.3
Diethylphthalate	<2.1
Fluorene	<2.1
4,6-Dinitro-2-methylphenol	<26.4
N-Nitrosodiphenylamine	<2.1
Hexachlorobenzene	<2.1
Pentachlorophenol	<3.9
Phenanthrene	42.3
Anthracene	12.7
Di-n-butylphthalate	<2.8

NOTES:
All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATEER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**LS-3(9)-01**
Lab Sample No.	**D97-6478-6**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**5/27/97**
Compound (ppb)	
BNAs	
Fluoranthene	58.0
Benzidine	<6.3
Pyrene	42.8
Butylbenzylphthalate	<2.8
bis(2-Ethylhexyl)phthalate	<2.8
3,3'-Dichlorobenzidine	<18.2
Benzo(a)anthracene	17.8
Chrysene	18.0
Benzo(b)fluroanthene	20.6
Benzo(k)fluoranthene	7.9
Benzo(a)pyrene	11.4
Indeno(1,2,3-cd)pyrene	<4.1
Dibenzo(a,h)anthracene	<2.8
Benzo(g,h,i)perylene	<4.5
1,2,4,5-Tetrachlorobenzene	<11.0
Pentachlorobenzene	<11.0
PCBs	
Aroclor 1016	<25.0
Aroclor 1221	<25.0
Aroclor 1232	<25.0
Aroclor 1242	<25.0
Aroclor 1248	111
Aroclor 1254	<25.0
Aroclor 1260	<25.0

NOTES:
Analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(10)-01	LS-3(10)-01
Lab Sample No.	D96-11994-3	D97-10473-5
Depth (feet)	N/A	N/A
Type	AQUEOUS	AQUEOUS
Date Collected	10/23/96	8/27/97
Compound (ug/l)		
VOLATILES		
Chloromethane	<10.0	<10.0
Bromomethane	<10.0	<10.0
Vinyl chloride	82.9	<10.0
Chloroethane	<10.0	<10.0
Methylene chloride	<5.0	<5.0
Acetone	<100	<100
Carbon disulfide	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0
cis -1,2-Dichloroethene	15.8	<5.0
trans-1,2-Dichloroethene	7.4	<5.0
Chloroform	<5.0	<5.0
1,2-Dichloroethane	11.4	11.7
2-Butanone	<50.0	<50.0
1,1,1-Trichloroethane	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0
Bromodichloromethane	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0
Trichloroethene	<5.0	<5.0
Chlorodibromomethane	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0
Benzene	222	728(D)
trans-1,2-Dichloropropene	<5.0	<5.0
Bromoform	<5.0	<5.0
4-Methyl-2-pentanone	<50.0	<50.0
2-Hexanone	<50.0	<50.0
Tetrachloroethene	<5.0	<5.0
Toluene	99.4	180
1,1,2,2-Tetrachloroethane	<5.0	<5.0
Chlorobenzene	280	1330(D)
Ethylbenzene	103	226
Styrene	<5.0	<5.0
Total Xylenes	103	231
Total VOCs	924	2707
METALS		
Lead	NA	10.7
Arsenic	NA	2.6(B)

NOTES:
Analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
NA - Not Analyzed
EPA Method 8240 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(B) - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.
(D) - Indicate analyses at a secondary dilution.

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(10)-01	LS-3(10)-01
Lab Sample No.	D96-11994-3	D97-10473-5
Depth (feet)	N/A	N/A
Type	AQUEOUS	AQUEOUS
Date Collected	10/23/96	8/27/97
Compound (ug/l) BNAs		
N-Nitrosodimethylamine	NA	<5.5
Phenol	NA	4.8
Bis(2-chloroethyl)ether	NA	3.6(J)
2-Chlorophenol	NA	2.5(J)
1,3-Dichlorobenzene	NA	68.0
1,4-Dichlorobenzene	NA	165
1,2-Dichlorobenzene	NA	60.5
Bis(2-chloroisopropyl)ether	NA	<6.3
Hexachloroethane	NA	<1.8
Nitrobenzene	NA	<2.1
Isophorone	NA	<2.4
2,4-Dimethylphenol	NA	2.4(J)
2-Nitrophenol	NA	<4.2
2,4-Dichlorophenol	NA	<3.0
1,2,4-Trichlorobenzene	NA	1.6(J)
Naphthalene	NA	<2.0
Hexachlorobutadiene	NA	<1.0
Hexachlorocyclopentadiene	NA	<5.5
2,4,6-Trichlorophenol	NA	<3.0
Dimethylphthalate	NA	<2.0
2,6-Dinitrotoluene	NA	<2.1
Acenaphthylene	NA	<3.9
2,4-Dinitrophenol	NA	<46.2
4-Nitrophenol	NA	<4.2
2,4-Dinitrotoluene	NA	<6.3
Diethylphthalate	NA	<2.1
Fluorene	NA	<2.1
4,6-Dinitro-2-methylphenol	NA	<26.4
N-Nitrosodidiphenylamine	NA	<2.1
Hexachlorobenzene	NA	<2.1
Pentachlorophenol	NA	<3.9
Phenanthrene	NA	<5.9
Anthracene	NA	<2.1
Di-n-butylphthalate	NA	<2.8

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(10)-01	LS-3(10)-01
Lab Sample No.	D96-11994-3	D97-10473-5
Depth (feet)	N/A	N/A
Type	AQUEOUS	AQUEOUS
Date Collected	10/23/96	8/27/97
Compound (ug/l)		
BNAs		
Fluoranthene	NA	7.5
Benzidine	NA	<6.3
Pyrene	NA	7.7
Butylbenzylphthalate	NA	<2.8
bis(2-Ethylhexyl)phthalate	NA	6.6
3,3'-Dichlorobenzidine	NA	<18.2
Benzo(a)anthracene	NA	3.2(J)
Chrysene	NA	3.3
Benzo(b)fluroanthene	NA	5.4
Benzo(k)fluoranthene	NA	2.8
Benzo(a)pyrene	NA	3.2
Indeno(1,2,3-cd)pyrene	NA	1.3(J)
Dibenzo(a,h)anthracene	NA	<2.8
Benzo(g,h,i)perylene	NA	1.4(J)
1,2,4,5-Tetrachlorobenzene	NA	<11.0
Pentachlorobenzene	NA	<11.0
PCBs		
Aroclor 1016	NA	<2.50
Aroclor 1221	NA	<2.50
Aroclor 1232	NA	<2.50
Aroclor 1242	NA	<2.50
Aroclor 1248	NA	6.88
Aroclor 1254	NA	<2.50
Aroclor 1260	NA	<2.50

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
NA - Not Analyzed
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.

TABLE A-8 (CONT'D0
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(11)-03	LS-3(11)-01	LS-3(11)-02
Lab Sample No.	D96-9023-1	D98-3810-11	G783-80542
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/14/96	5/18/98	8/26/98
Compound (ug/l) VOLATILES	(1)(*)	(1)(*)	(2)(**)
Chloromethane	<10.0	<10.0	<10
Bromomethane	<10.0	<10.0	<10
Vinyl chloride	<10.0	<10.0	86
Chloroethane	<10.0	<10.0	<10
Methylene chloride	<5.0	<5.0	<6.0
Acetone	<100	<100	<10
Carbon disulfide	<5.0	<5.0	<10
1,1 - Dichloroethene	<5.0	<5.0	<4.0
1,1 - Dichloroethane	<5.0	<5.0	<10
cis - 1,2-Dichloroethene	17.4	<5.0	21
trans-1,2-Dichloroethene	<5.0	<5.0	20
Chloroform	<5.0	<5.0	<10
1,2-Dichloroethane	<5.0	<5.0	<4.0
2-Butanone	<50.0	<50.0	<10
1,1,1-Trichloroethane	<5.0	<5.0	<10
Carbon tetrachloride	<5.0	<5.0	<4.0
Bromodichloromethane	<5.0	<5.0	<2.0
1,2-Dichloropropane	<5.0	<5.0	<2.0
cis-1,3-Dichloropropene	<5.0	<5.0	<10
Trichloroethene	<5.0	<5.0	<2.0
Chlorodibromomethane	<5.0	<5.0	<10
1,1,2-Trichloroethane	<5.0	<5.0	<6.0
Benzene	31.6	68.0	270
trans-1,3-Dichloropropene	<5.0	<5.0	<10
Bromoform	<5.0	<5.0	<8.0
4-Methyl-2-pentanone	<50.0	<50.0	<10
2-Hexanone	<50.0	<50.0	<10
Tetrachloroethene	<5.0	<5.0	<2.0
Toluene	<5.0	<5.0	7.0(J)
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<2.0
Chlorobenzene	<5.0	38.6	21
Ethylbenzene	<5.0	<5.0	1.4(J)
Styrene	<5.0	<5.0	<10
Total Xylenes	<5.0	<10.0	2.8(J)
Total VOCs	49.0	106.6	429
METALS			
Arsenic	NA	7.0	6.0
Lead	NA	23.9	7.4

NOTES:
(*) Analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
N/A - Not Applicable
NA - Not Analyzed
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(11)-03	LS-3(11)-01	LS-3(11)-02
Lab Sample No.	D96-9023-1	D98-3896-1	G783-80542
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/14/96	5/18/98	8/26/98
Compound (ug/l) BNAs		(*)	(**)
N-Nitrosodimethylamine	NA	<5.0	<2.1
Phenol	NA	<1.5	<11
Bis(2-chloroethyl)ether	NA	<5.7	<12
2-Chlorophenol	NA	<3.3	<22
1,3-Dichlorobenzene	NA	<1.9	<35
1,4-Dichlorobenzene	NA	<4.4	<36
1,2-Dichlorobenzene	NA	2.3	<34
Bis(2-chloroisopropyl)ether	NA	<5.7	<14
Hexachloroethane	NA	<1.6	<24
Nitrobenzene	NA	<1.9	<15
Isophorone	NA	<2.2	<17
2,4-Dimethylphenol	NA	<2.7	<28
2-Nitrophenol	NA	<3.8	<31
2,4-Dichlorophenol	NA	<2.7	<30
1,2,4-Trichlorobenzene	NA	<1.9	<38
Naphthalene	NA	<1.8	<26
Hexachlorobutadiene	NA	<0.9	<22
Hexachlorocyclopentadiene	NA	<5.0	<16
2,4,6-Trichlorophenol	NA	<2.7	<31
Dimethylphthalate	NA	<1.8	<13
2,6-Dinitrotoluene	NA	<1.9	<15
Acenaphthylene	NA	<3.5	<21
2,4-Dinitrophenol	NA	<42.0	<58
4-Nitrophenol	NA	<3.8	<12
2,4-Dinitrotoluene	NA	<5.7	<15
Diethylphthalate	NA	<1.9	<12
Fluorene	NA	<1.9	<20
4,6-Dinitro-2-methylphenol	NA	<24.0	<41
N-Nitrosodiphenylamine	NA	<1.9	<11
Hexachlorobenzene	NA	<1.9	<13
Pentachlorophenol	NA	<3.5	<26
Phenanthrene	NA	<5.4	<11
Anthracene	NA	<1.9	<11
Di-n-butylphthalate	NA	<2.5	<9.8

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
N/A - Not Applicable
NA - Not Analyzed

TABLE A-8 (CONT'D0
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-3(11)-03	LS-3(11)-01	LS-3(11)-02
Lab Sample No.	D96-9023-1	D98-3896-1	G783-80542
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/14/96	5/18/98	8/26/98
Compound (ug/l)			
BNAs		(*)	(**)
Fluoranthene	NA	<2.2	<11
Benzidine	NA	<5.7	<5.1
Pyrene	NA	<1.9	<6.1
Butylbenzylphthalate	NA	1.3(J)	<6.7
bis(2-Ethylhexyl)phthalate	NA	1.5(J)	120
3,3'-Dichlorobenzidine	NA	<16.5	<15
Benzo(a)anthracene	NA	<7.8	<8.6
Chrysene	NA	<2.5	<8.8
Benzo(b)fluroanthene	NA	<4.8	<7.6
Benzo(k)fluoranthene	NA	<2.5	<9.4
Benzo(a)pyrene	NA	<2.5	<8.2
Indeno(1,2,3-cd)pyrene	NA	<3.7	<7.1
Dibenzo(a,h)anthracene	NA	<2.5	<8.6
Benzo(g,h,i)perylene	NA	<4.1	<7.6
1,2,4,5-Tetrachlorobenzene	NA	<10.0	<200
Pentachlorobenzene	NA	<10.0	<200
PCBs		(1)	
Aroclor 1016	NA	<0.500	<0.30
Aroclor 1221	NA	<1.00	<0.40
Aroclor 1232	NA	<1.00	<0.30
Aroclor 1242	NA	<1.00	<0.30
Aroclor 1248	NA	1.84	0.56
Aroclor 1254	NA	<1.00	<0.40
Aroclor 1260	NA	<0.500	<0.20
DISSOLVED PCBs		(1)	(2)
Aroclor 1016	NA	<0.521	<0.30
Aroclor 1221	NA	<1.04	<0.40
Aroclor 1232	NA	<1.04	<0.30
Aroclor 1242	NA	<1.04	<0.30
Aroclor 1248	NA	<1.04	<0.30
Aroclor 1254	NA	<1.04	<0.40
Aroclor 1260	NA	<0.521	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
NA - Not Analyzed
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) Lab Sample No. for this analysis is D98-3810-11
(2) Lab Sample No. for this analysis is G783-80551

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(12)-01	LS-2(12)-01	LS-2(12)-03
Lab Sample No.	D96-9195-2	D96-10433-1	D96-11901-2
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/19/96	9/18/96	10/21/96
Compound (ug/l)			
VOLATILES			
Chloromethane	<10.0	<10.0	<10.0
Bromomethane	<10.0	<10.0	<10.0
Vinyl chloride	46.9	106	<10.0
Chloroethane	<10.0	<10.0	<10.0
Methylene chloride	<5.0	<5.0	<5.0
Acetone	<100	<100	<100
Carbon disulfide	<5.0	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<5.0
cis -1,2-Dichloroethene	1300(D)	1140(D)	<5.0
trans-1,2-Dichloroethene	54.2	107	<5.0
Chloroform	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0
2-Butanone	<50.0	<50.0	<50.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<5.0
Bromodichloromethane	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0
Trichloroethene	26	66.1	<5.0
Chlorodibromomethane	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0
Benzene	625(D)	1270(D)	<5.0
trans-1,2-Dichloropropene	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<50.0	<50.0	<50.0
2-Hexanone	<50.0	<50.0	<50.0
Tetrachloroethene	<5.0	7.6	<5.0
Toluene	2030(D)	3000(D)	<5.0
1,1,2,2-Tetrachloroethane	<5.0	11.1	<5.0
Chlorobenzene	158	311	<5.0
Ethylbenzene	114	260	<5.0
Styrene	<5.0	<5.0	<5.0
Total Xylenes	225	879	<10.0
Total VOCs	4580	7158	<100
METALS			
Lead	6.0	NA	3.0
Arsenic	5.44	NA	6.3

NOTES:
Analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
NA - Not Analyzed
(B) Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.
(D) Analyses run at a secondary dilution
EPA Method 8240 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(12)-01	LS-2(12)-01	LS-2(12)-03
Lab Sample No.	D96-9195-2	D96-10433-1	D96-11901-2
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/19/96	9/18/96	10/21/96
Compound (ppb) BNAs			
N-Nitrosodimethylamine	<5.0	NA	<5.0
Phenol	22.1	NA	<1.5
Bis(2-chloroethyl)ether	<5.7	NA	<5.7
2-Chlorophenol	<3.3	NA	<3.3
1,3-Dichlorobenzene	<1.9	NA	<1.9
1,4-Dichlorobenzene	3.4(J)	NA	23.1
1,2-Dichlorobenzene	19.5	NA	94.2
Bis(2-chloroisopropyl)ether	<5.7	NA	<5.7
Hexachloroethane	<1.6	NA	<1.6
Nitrobenzene	2.7	NA	<1.9
Isophorone	<2.2	NA	<2.2
2,4-Dimethylphenol	8.0	NA	<2.7
2-Nitrophenol	<3.8	NA	<3.8
2,4-Dichlorophenol	<2.7	NA	<2.7
1,2,4-Trichlorobenzene	<1.9	NA	<1.9
Naphthalene	<1.8	NA	<1.8
Hexachlorobutadiene	<0.9	NA	<0.9
Hexachlorocyclopentadiene	<5.0	NA	<5.0
2,4,6-Trichlorophenol	<2.7	NA	<2.7
Dimethylphthalate	<1.8	NA	<1.8
2,6-Dinitrotoluene	<1.9	NA	<1.9
Acenaphthylene	<3.5	NA	<3.5
2,4-Dinitrophenol	<42.0	NA	<42.0
4-Nitrophenol	<3.8	NA	<3.8
2,4-Dinitrotoluene	<5.7	NA	<5.7
Diethylphthalate	2.8	NA	8.3
Fluorene	<1.9	NA	<1.9
4,6-Dinitro-2-methylphenol	<24.0	NA	<24.0
N-Nitrosodiphenylamine	<1.9	NA	<1.9
Hexachlorobenzene	<1.9	NA	<1.9
Pentachlorophenol	<3.5	NA	<3.5
Phenanthrene	<5.4	NA	<5.4
Anthracene	<1.9	NA	<1.9
Di-n-butylphthalate	3.1	NA	<2.5

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below t
(D) - Indicates all compounds in an analysis at a secondary dilution.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(12)-01	LS-2(12)-01	LS-2(12)-03
Lab Sample No.	D96-9195-2	D96-10433-1	D96-11901-2
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/19/96	9/18/96	10/21/96
Compound (ppb)			
BNAs			
Fluoranthene	<2.2	NA	<2.2
Benzidine	<5.7	NA	<5.7
Pyrene	<1.9	NA	<1.9
Butylbenzylphthalate	<2.5	NA	<2.5
bis(2-Ethylhexyl)phthalate	<2.5	NA	<2.5
3,3'Dichlorobenzidine	<16.5	NA	<16.5
Benzo(a)anthracene	<7.8	NA	<7.8
Chrysene	<2.5	NA	<2.5
Benzo(b)fluroanthene	<4.8	NA	<4.8
Benzo(k)fluoranthene	<2.5	NA	<2.5
Benzo(a)pyrene	<2.5	NA	<2.5
Indeno(1,2,3-cd)pyrene	<3.7	NA	<3.7
Dibenzo(a,h)anthracene	<2.5	NA	<2.5
Benzo(g,h,i)perylene	<4.1	NA	<4.1
1,2,4,5-Tetrachlorobenzene	<10.0	NA	<10.0
Pentachlorobenzene	<10.0	NA	<10.0
PCBs			
Aroclor 1016	<0.50	NA	<0.500
Aroclor 1221	<0.50	NA	<0.500
Aroclor 1232	<0.50	NA	<0.500
Aroclor 1242	<0.50	NA	<0.500
Aroclor 1248	1.58	NA	0.56
Aroclor 1254	<0.50	NA	<0.500
Aroclor 1260	<0.50	NA	<0.500
DISSOLVED PCBs			
Aroclor 1016	NA	NA	NA
Aroclor 1221	NA	NA	NA
Aroclor 1232	NA	NA	NA
Aroclor 1242	NA	NA	NA
Aroclor 1248	NA	NA	NA
Aroclor 1254	NA	NA	NA
Aroclor 1260	NA	NA	NA

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(12)-02	LS-2(12)-04	LS-2(12)-05	LS-2(12)-06
Lab Sample No.	D96-13392-4	D96-13518-2	D97-4155-3	D97-6478-3
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	11/21/96	11/25/96	04/04/97	5/27/97
Compound (ug/l) VOLATILES				
Chloromethane	<10.0	<10.0	<10.0	<10.0
Bromomethane	<10.0	<10.0	<10.0	<10.0
Vinyl chloride	150	189	47.8	12.5
Chloroethane	<10.0	<10.0	<10.0	<10.0
Methylene chloride	<5.0	<5.0	<5.0	<5.0
Acetone	<100	<100	<100.0	<100
Carbon disulfide	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0
cis -1,2-Dichloroethene	947	1100(D)	149	154
trans-1,2-Dichloroethene	55.9	63.0	9.4	5.3
Chloroform	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0	<5.0
2-Butanone	<50.0	<50.0	<50.0	<50.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Trichloroethene	12.8	14.6	<5.0	<5.0
Chlorodibromomethane	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0
Benzene	823	1370(D)	732(D)	140
trans-1,2-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<50.0	<50.0	<50.0	<50.0
2-Hexanone	<50.0	<50.0	<50.0	<50.0
Tetrachloroethene	<5.0	<5.0	6.4	<5.0
Toluene	1120	1810(D)	<5.0	192
1,1,2,2-Tetrachloroethane	11.1	9.5	17.3	<5.0
Chlorobenzene	191	280	150	51.5
Ethylbenzene	140	188	67.3	25.7
Styrene	<5.0	<5.0	<5.0	<5.0
Total Xylenes	209	260	98.0	38.1
Total VOCs	3660	5284	1277	619
METALS				
Lead	2.08	<1.49	<1.7	2.5
Arsenic	2.90	2.44	<4.8	<5.0

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead
(D) Analyses run at a secondary dilution
(J) Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(12)-02	LS-2(12)-04	LS-2(12)-05	LS-2(12)-06
Lab Sample No.	D96-13392-4	D96-13518-2	D97-4155-3	D97-6478-3
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	11/21/96	11/25/96	04/04/97	5/27/97
Compound (ppb) BNAs				
N-Nitrosodimethylamine	<5.0	<5.0	<5.0	<5.0
Phenol	>1.5	<1.5	26	<1.5
Bis(2-chloroethyl)ether	<5.7	<5.7	<5.7	<5.7
2-Chlorophenol	<3.3	<3.3	<3.3	<3.3
1,3-Dichlorobenzene	2.5	<1.9	4.3	<1.9
1,4-Dichlorobenzene	10.6	13.1	15.1	5.7
1,2-Dichlorobenzene	66.6	72.8	56.9	24.4
Bis(2-chloroisopropyl)ether	<5.7	<5.7	<5.7	<5.7
Hexachloroethane	<1.6	<1.6	<1.6	<1.6
Nitrobenzene	<1.9	<1.9	<1.9	<1.9
Isophorone	<2.2	<2.2	<2.2	<2.2
2,4-Dimethylphenol	15.5	24.6	<2.7	<2.7
2-Nitrophenol	<3.8	<3.8	<3.8	<3.8
2,4-Dichlorophenol	<2.7	<2.7	<2.7	<2.7
1,2,4-Trichlorobenzene	<1.9	<1.9	<1.9	<1.9
Naphthalene	2.5	<1.8	3.2	<1.8
Hexachlorobutadiene	<0.9	<0.9	<0.9	<0.9
Hexachlorocyclopentadiene	<5.0	<5.0	<5.0	<5.0
2,4,6-Trichlorophenol	<2.7	<2.7	<2.7	<2.7
Dimethylphthalate	<1.8	<1.8	<1.8	<1.8
2,6-Dinitrotoluene	<1.9	<1.9	<1.9	<1.9
Acenaphthylene	<3.5	<3.5	<3.5	<3.5
2,4-Dinitrophenol	<42.0	<42.0	<42.0	<42.0
4-Nitrophenol	<3.8	<3.8	<3.8	<3.8
2,4-Dinitrotoluene	<5.7	<5.7	<5.7	<5.7
Diethylphthalate	<1.9	<1.9	<1.9	<1.9
Fluorene	<1.9	<1.9	<1.9	<1.9
4,6-Dinitro-2-methylphenol	<42.0	24.0	<24.0	<24.0
N-Nitrosodiphenylamine	<1.9	<1.9	<1.9	<1.9
Hexachlorobenzene	<1.9	<1.9	<1.9	<1.9
Pentachlorophenol	<3.5	<3.5	<3.5	<3.5
Phenanthrene	<5.4	<5.4	<5.4	<5.4
Anthracene	<1.9	<1.9	<1.9	<1.9
Di-n-butylphthalate	<2.5	<2.5	<2.5	<2.5

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(D) - Indicates all compounds in an analysis at a secondary dilution.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compunds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(12)-02	LS-2(12)-04	LS-2(12)-05	LS-2(12)-06
Lab Sample No.	D96-13392-4	D96-13518-2	D97-4155-3	D97-6478-3
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	11/21/96	11/25/96	04/04/97	5/27/97
Compound (ppb) BNAs				(*)
Fluoranthene	<2.2	<2.2	<2.2	<2.2
Benzidine	<5.7	<5.7	<5.7	<5.7
Pyrene	<1.9	<1.9	<1.9	<1.9
Butylbenzylphthalate	<2.5	<2.5	<2.5	<2.5
bis(2-Ethylhexyl)phthalate	<2.5	<2.5	<2.5	<2.5
3,3'Dichlorobenzidine	<16.5	<16.5	<16.5	<16.5
Benzo(a)anthracene	<7.8	<7.8	<7.8	<7.8
Chrysene	<2.5	<2.5	<2.5	<2.5
Benzo(b)fluroanthene	<4.8	<4.8	<4.8	<4.8
Benzo(k)fluoranthene	<2.5	<2.5	<2.5	<2.5
Benzo(a)pyrene	<2.5	<2.5	<2.5	<2.5
Indeno(1,2,3-cd)pyrene	<3.7	<3.7	<3.7	<3.7
Dibenzo(a,h)anthracene	<2.5	<2.5	<2.5	<2.5
Benzo(g,h,i)perylene	<4.1	<4.1	<4.1	<4.1
1,2,4,5-Tetrachlorobenze	<10.0	<10.0	<10.0	<10.0
Pentachlorobenzene	<10.0	<10.0	<10.0	<10.0
PCBs				
Aroclor 1016	<0.500	<0.500	<0.50	<0.50
Aroclor 1221	<0.500	<0.500	<0.50	<0.50
Aroclor 1232	<0.500	<0.500	<0.50	<0.50
Aroclor 1242	<0.500	<0.500	<0.50	<0.50
Aroclor 1248	<0.500	<0.500	<0.50	<0.50
Aroclor 1254	<0.500	<0.500	<0.50	<0.50
Aroclor 1260	<0.500	<0.500	<0.50	<0.50
DISSOLVED PCBs				
Aroclor 1016	NA	NA	NA	NA
Aroclor 1221	NA	NA	NA	NA
Aroclor 1232	NA	NA	NA	NA
Aroclor 1242	NA	NA	NA	NA
Aroclor 1248	NA	NA	NA	NA
Aroclor 1254	NA	NA	NA	NA
Aroclor 1260	NA	NA	NA	NA

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(12)-07	LS-2(12)-08	LS-2(12)-09	LS-2(12)-10
Lab Sample No.	D97-9080-2	D97-10473-3	D97-15123-3	F763-73118
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	7/23/97	8/27/97	12/15/97	7/22/98
Compounds (ug/l)				
VOLATILES	(1)(*)	(1)(*)	(1)(*)	(2)(**)
Chloromethane	<10.0	<10.0	<10.0	<5.0
Bromomethane	<10.0	<10.0	<10.0	<5.0
Vinyl chloride	<10.0	22.7	10.9	<5.0
Chloroethane	<10.0	<10.0	<10.0	<5.0
Methylene chloride	<5.0	<5.0	<5.0	<3.0
Acetone	<100	<100	<100	<5.0
Carbon disulfide	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	<5.0	<5.0	<5.0	<2.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0
cis -1,2-Dichloroethene	<5.0	18.6	41.5	1.2(J)
trans-1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0
Chloroform	<5.0	<5.0	5.8	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0	<2.0
2-Butanone	<50.0	<50.0	<50.0	<5.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<5.0	<2.0
Bromodichloromethane	<5.0	<5.0	<5.0	<1.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Trichloroethene	<5.0	<5.0	7.3	<1.0
Chlorodibromomethane	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<3.0
Benzene	<5.0	152	24.4	1.7
trans-1,2-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<5.0	<4.0
4-Methyl-2-pentanone	<50.0	<50.0	<50.0	<5.0
2-Hexanone	<50.0	<50.0	<50.0	<5.0
Tetrachloroethene	<5.0	<5.0	<5.0	<1.0
Toluene	306(E)	8.0	55.7	<5.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<1.0
Chlorobenzene	<5.0	26.4	25.2	3.2(J)
Ethylbenzene	<5.0	19.7	5.6	1.2(J)
Styrene	<5.0	<5.0	<5.0	<5.0
Total Xylenes	<20.0	15.3	<10.0	<5.0
Total VOCs	306	263	176	7.3(J)
METALS				
Lead	6.4	3.5	<1	<5.0
Arsenic	1.7(B)	<2.0	4.5	6.3

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
NA - Not Analyzed
(B) Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.
(D) Analyses run at a secondary dilution
(E) Estimated value due to interferences
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(12)-07	LS-2(12)-08	LS-2(12)-09	LS-2(12)-10
Lab Sample No.	D97-9080-2	D97-10473-3	D97-15123-3	F763-73118
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	7/23/97	8/27/97	12/15/97	7/22/98
Compound (ug/l) BNAs	(*)	(*)	(*)	(**)
N-Nitrosodimethylamine	<5.5	<5.5	<27.5(D)	<0.7
Phenol	<1.7	<1.7	925(D)	<1.1
Bis(2-chloroethyl)ether	<6.3	<6.3	<31.4(D)	<1.2
2-Chlorophenol	<3.6	<3.6	<18.2(D)	<2.2
1,3-Dichlorobenzene	<2.1	1.1(J)	<10.5(D)	<3.5
1,4-Dichlorobenzene	<4.8	3.7(J)	<24.2(D)	<3.6
1,2-Dichlorobenzene	9.7	21.1	33.2(D)	<3.4
Bis(2-chloroisopropyl)ether	<6.3	<6.3	<31.4(D)	<1.4
Hexachloroethane	<1.8	<1.8	<8.8(D)	<2.4
Nitrobenzene	<2.1	<2.1	<10.5(D)	<1.5
Isophorone	<2.4	<2.4	<12.1(D)	<1.7
2,4-Dimethylphenol	<3.0	<3.0	<14.9(D)	<2.8
2-Nitrophenol	<4.2	<4.2	<20.9(D)	<3.1
2,4-Dichlorophenol	<3.0	<3.0	<14.9(D)	<3.0
1,2,4-Trichlorobenzene	<2.1	<2.1	<10.5(D)	<3.8
Naphthalene	<2.0	<2.0	<9.9(D)	<2.6
Hexachlorobutadiene	<1.0	<1.0	<5.0(D)	<2.2
Hexachlorocyclopentadiene	<5.5	<5.5	<27.5(D)	<1.6
2,4,6-Trichlorophenol	<3.0	<3.0	<14.9(D)	<3.1
Dimethylphthalate	<2.0	<2.0	<9.9(D)	<1.3
2,6-Dinitrotoluene	<2.1	<2.1	<10.5(D)	<1.5
Acenaphthylene	<3.9	<3.9	<19.3(D)	<2.1
2,4-Dinitrophenol	<46.2	<46.2	<231(D)	<5.8
4-Nitrophenol	<4.2	<4.2	<20.9(D)	<1.2
2,4-Dinitrotoluene	<6.3	<6.3	<31.4(D)	<1.5
Diethylphthalate	<2.1	<2.1	<10.5(D)	<1.2
Fluorene	<2.1	<2.1	<10.5(D)	<2.0
4,6-Dinitro-2-methylphenol	<26.4	<26.4	<132(D)	<4.1
N-Nitrosodiphenylamine	<2.1	<2.1	<10.5(D)	<1.1
Hexachlorobenzene	<2.1	<2.1	<10.5(D)	<1.3
Pentachlorophenol	<3.9	<3.9	<19.3(D)	<2.6
Phenanthrene	<5.9	<5.9	<29.7(D)	<1.1
Anthracene	<2.1	<2.1	<10.5(D)	<1.1
Di-n-butylphthalate	<2.8	<2.8	<13.8(D)	<1.0

Notes:
(*) Analyses performed by Inchape testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
(J) Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(D) Indicates all analyses at a secondary dilution
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(12)-07	LS-2(12)-08	LS-2(12)-09	LS-2(12)-10
Lab Sample No.	D97-9080-2	D97-10473-3	D97-15123-3	F763-73118
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	7/23/97	8/27/97	12/15/97	7/22/98
Compound (ug/l)				
BNAs	(*)	(*)	(*)	(**)
Fluoranthene	<2.4	<2.4	<12.1(D)	<1.1
Benzidine	<6.3	<6.3	<31.4(D)	<0.5
Pyrene	<2.1	<2.1	<10.5(D)	<0.6
Butylbenzylphthalate	<2.8	<2.8	<13.8(D)	<0.7
bis(2-Ethylhexyl)phthalate	<2.8	2.1(J)	<13.8(D)	<1.2
3,3'Dichlorobenzidine	<18.2	<18.2	<90.8(D)	<1.5
Benzo(a)anthracene	<8.6	<8.6	<42.9(D)	<0.9
Chrysene	<2.8	<2.8	<13.8(D)	<0.9
Benzo(b)fluroanthene	<5.3	<5.3	<26.4(D)	<0.8
Benzo(k)fluoranthene	<2.8	<2.8	<13.8(D)	<0.9
Benzo(a)pyrene	<2.8	<2.8	<13.8(D)	<0.8
Indeno(1,2,3-cd)pyrene	<4.1	<4.1	<20.4(D)	<0.7
Dibenzo(a,h)anthracene	<2.8	<2.8	<13.8(D)	<0.9
Benzo(g,h,i)perylene	<4.5	<4.5	<22.6(D)	<0.8
1,2,4,5-Tetrachlorobenzene	<11.0	<11.0	<55.0(D)	<20
Pentachlorobenzene	<11.0	<11.0	<55.0(D)	<20
PCBs				
Aroclor 1016	<0.600	<0.500	<0.500	<0.30
Aroclor 1221	<0.600	<0.500	<0.500	<0.40
Aroclor 1232	<0.600	<0.500	<0.500	<0.30
Aroclor 1242	<0.600	<0.500	0.581	<0.30
Aroclor 1248	<0.600	<0.500	<0.500	0.60
Aroclor 1254	<0.600	<0.500	<0.500	<0.40
Aroclor 1260	<0.600	<0.500	<0.500	<0.20
DISSOLVED PCBs				(1)
Aroclor 1016	NA	NA	<0.500	<0.30
Aroclor 1221	NA	NA	<0.500	<0.40
Aroclor 1232	NA	NA	<0.500	<0.30
Aroclor 1242	NA	NA	<0.500	<0.30
Aroclor 1248	NA	NA	<0.500	<0.30
Aroclor 1254	NA	NA	<0.500	<0.40
Aroclor 1260	NA	NA	<0.500	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543
(D) - Indicates all analyses at a secondary dilution.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) The Lab Sample No. for this analysis is F763-73127

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(13)-01	LS-2(13)-02	LS-2(13)-01	LS-2(13)-02	LS-2(13)-03
Lab Sample No.	D96-9023-2	D96-11994-4	D97-4155-4	D97-6478-4	D97-10473-4
Depth (feet)	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/14/96	10/23/96	04/04/97	5/27/97	8/27/97
Compound (ug/l) VOLATILES					
Chloromethane	<10.0	<10.0	<10.0	<10.0	<10.0
Bromomethane	<10.0	<10.0	<10.0	<10.0	<10.0
Vinyl chloride	93.4	<10.0	<10.0	<10.0	<10.0
Chloroethane	<10.0	<10.0	<10.0	<10.0	<10.0
Methylene chloride	<5.0	<5.0	<5.0	<5.0	<5.0
Acetone	<100	<100	<100	<100	<100
Carbon disulfide	<5.0	<5.0	<5.0	<5.0	<5.0
1,1 - Dichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0
1,1 - Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0
cis - 1,2-Dichloroethene	212	<5.0	<5.0	15.4	<5.0
trans-1,2-Dichloroethene	17.3	<5.0	<5.0	<5.0	<5.0
Chloroform	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0
2-Butanone	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorodibromomethane	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	206	5.9	<5.0	14.9	<5.0
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone	<50.0	<50.0	<50.0	<50.0	<50.0
2-Hexanone	<50.0	<50.0	<50.0	<50.0	<50.0
Tetrachloroethene	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	186	<5.0	<5.0	<5.0	12.2
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	143	16.2	<5.0	12.2	<5.0
Ethylbenzene	56.4	<5.0	<5.0	<5.0	<5.0
Styrene	<5.0	<5.0	<5.0	<5.0	<5.0
Total Xylenes	111	<10.0	<100.0	<10.0	5.8
Total VOCs	1025	22.1	<100.0	42.5	18.0
METALS					
Lead	NA	NA	7.8	3.5	3.3
Arsenic	NA	NA	<4.8	<5.0	7.8

NOTES:
Analyses performed by Intertek Testing Services Inc.; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
NA - Not analyzed
EPA Method 8240 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(13)-01	LS-2(13)-02	LS-2(13)-01	LS-2(13)-02	LS-2(13)-03
Lab Sample No.	D96-9023-2	D96-11994-4	D97-4155-4	D97-6478-4	D97-10473-4
Depth (feet)	N/A	N/A	N/A	N/A	N/A
Type	AQEUOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	8/14/96	10/23/96	04/04/97	5/27/97	8/27/97
Compound (ppb) BNAs					
N-Nitrosodimethylamine	NA	NA	<5.0	<5.2	<5.5
Phenol	NA	NA	<1.5	<1.6	<1.7
Bis(2-chloroethyl)ether	NA	NA	<5.7	<5.9	<6.3
2-Chlorophenol	NA	NA	<3.3	<3.4	<3.6
1,3-Dichlorobenzene	NA	NA	<1.9	<2.0	<2.1
1,4-Dichlorobenzene	NA	NA	<4.4	<4.6	1.8(J)
1,2-Dichlorobenzene	NA	NA	<1.9	<2.0	1.3(J)
Bis(2-chloroisopropyl)ether	NA	NA	<5.7	<5.9	<6.3
Hexachloroethane	NA	NA	<1.6	<1.7	<1.8
Nitrobenzene	NA	NA	<1.9	<2.0	<2.1
Isophorone	NA	NA	<2.2	<2.3	<2.4
2,4-Dimethylphenol	NA	NA	<2.7	<2.8	<3.0
2-Nitrophenol	NA	NA	<3.8	<4.0	<4.2
2,4-Dichlorophenol	NA	NA	<2.7	<2.8	<3.0
1,2,4-Trichlorobenzene	NA	NA	<1.9	<2.0	<2.1
Naphthalene	NA	NA	<1.8	<1.9	<2.0
Hexachlorobutadiene	NA	NA	<0.9	<0.9	<1.0
Hexachlorocyclopentadiene	NA	NA	<5.0	<5.2	<5.5
2,4,6-Trichlorophenol	NA	NA	<2.7	<2.8	<3.0
Dimethylphthalate	NA	NA	<1.8	<1.9	<2.0
2,6-Dinitrotoluene	NA	NA	<1.9	<2.0	<2.1
Acenaphthylene	NA	NA	<3.5	<3.6	<3.9
2,4-Dinitrophenol	NA	NA	<42.0	<43.7	<46.2
4-Nitrophenol	NA	NA	<3.8	<4.0	<4.2
2,4-Dinitrotoluene	NA	NA	<5.7	<5.9	<6.3
Diethylphthalate	NA	NA	<1.9	<2.0	<2.1
Fluorene	NA	NA	<1.9	<2.0	<2.1
4,6-Dinitro-2-methylphenol	NA	NA	<24.0	<25.0	<26.4
N-Nitrosodiphenylamine	NA	NA	<1.9	<2.0	<2.1
Hexachlorobenzene	NA	NA	<1.9	<2.0	<2.1
Pentachlorophenol	NA	NA	<3.5	<3.6	<3.9
Phenanthrene	NA	NA	<5.4	<5.6	<5.9
Anthracene	NA	NA	<1.9	<2.0	<2.1
Di-n-butylphthalate	NA	NA	<2.5	<2.6	<2.8

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(13)-01	LS-2(13)-02	LS-2(13)-01	LS-2(13)-02	LS-2(13)-03
Lab Sample No.	D96-9023-2	D96-11994-4	D97-4155-4	D97-6478-4	D97-10473-4
Depth (feet)	N/A	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	Aqueous	Aqueous	Aqueous
Date Collected	8/14/96	10/23/96	04/04/97	5/27/97	8/27/97
Compound (ug/l)					
BNAs					
Fluoranthene	NA	NA	<2.2	<2.3	<2.4
Benzidine	NA	NA	<5.7	<5.9	<6.3
Pyrene	NA	NA	<1.9	<2.0	<2.1
Butylbenzylphthalate	NA	NA	<2.5	<2.6	<2.8
bis(2-Ethylhexyl)phthalate	NA	NA	<2.5	<2.6	3.8
3,3'-Dichlorobenzidine	NA	NA	<16.5	<17.2	<18.2
Benzo(a)anthracene	NA	NA	<7.8	<8.1	<8.6
Chrysene	NA	NA	<2.5	<2.6	<2.8
Benzo(b)fluroanthene	NA	NA	<4.8	<5.0	<5.3
Benzo(k)fluoranthene	NA	NA	<2.5	<2.6	<2.8
Benzo(a)pyrene	NA	NA	<2.5	<2.6	<2.8
Indeno(1,2,3-cd)pyrene	NA	NA	<3.7	<3.8	<4.1
Dibenzo(a,h)anthracene	NA	NA	<2.5	<2.6	<2.8
Benzo(g,h,i)perylene	NA	NA	<4.1	<4.3	<4.5
1,2,4,5-Tetrachlorobenzene	NA	NA	<10.0	<10.4	<11.0
Pentachlorobenzene	NA	NA	<10.0	<10.4	<11.0
PCBs					
Aroclor 1016	NA	NA	<0.500	<0.500	<0.600
Aroclor 1221	NA	NA	<0.500	<0.500	<0.600
Aroclor 1232	NA	NA	<0.500	<0.500	<0.600
Aroclor 1242	NA	NA	<0.500	<0.500	<0.600
Aroclor 1248	NA	NA	<0.500	<0.500	<0.600
Aroclor 1254	NA	NA	<0.500	<0.500	<0.600
Aroclor 1260	NA	NA	<0.500	<0.500	<0.600
Dissolved PCBs					
Aroclor 1016	NA	NA	NA	NA	NA
Aroclor 1221	NA	NA	NA	NA	NA
Aroclor 1232	NA	NA	NA	NA	NA
Aroclor 1242	NA	NA	NA	NA	NA
Aroclor 1248	NA	NA	NA	NA	NA
Aroclor 1254	NA	NA	NA	NA	NA
Aroclor 1260	NA	NA	NA	NA	NA

NOTES:
All analyses performed by Intertek Testing Services. Lab Certification No. 82716
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(13)-04	LS-2(13)-05	LS-2(13)-06	LS-2(13)-07
Lab Sample No.	D97-11886-2	D97-14402-3	E921-67692	I607-92999
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	9/30/97	11/21/97	6/22/98	10/28/98
Compound (ug/l) VOLATILES	(1)(*)	(1)(*)	(2)(**)	(2)(**)
Chloromethane	<10.0	<10.0	<5.0	<5.0
Bromomethane	<10.0	<10.0	<5.0	<5.0
Vinyl chloride	<10.0	<10.0	<5.0	<5.0
Chloroethane	<10.0	<10.0	<5.0	<5.0
Methylene chloride	<5.0	<5.0	<3.0	<3.0
Acetone	<100	14(J)	<5.0	<5.0
Carbon disulfide	<5.0	<5.0	<5.0	<5.0
1,1 - Dichloroethene	<5.0	<5.0	<2.0	<2.0
1,1 - Dichloroethane	<5.0	<5.0	<5.0	<5.0
cis - 1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0
Chloroform	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	<5.0	<5.0	<2.0	<2.0
2-Butanone	<50.0	<50.0	<5.0	<5.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	<5.0	<5.0	<2.0	<2.0
Bromodichloromethane	<5.0	<5.0	<1.0	<1.0
1,2-Dichloropropane	<5.0	<5.0	<1.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Trichloroethene	<5.0	<5.0	<1.0	<1.0
Chlorodibromomethane	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<5.0	<3.0	<3.0
Benzene	<5.0	84.1	42	78.0
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0
Bromoform	<5.0	<5.0	<4.0	<4.0
4-Methyl-2-pentanone	<50.0	<50.0	<5.0	<5.0
2-Hexanone	<50.0	<50.0	<5.0	<5.0
Tetrachloroethene	<5.0	<5.0	<1.0	<1.0
Toluene	<5.0	<5.0	0.6J	<5.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<1.0	<1.0
Chlorobenzene	5.3	125	88	86.0
Ethylbenzene	<5.0	6.7	<4.0	0.7(J)
Styrene	<5.0	<5.0	<5.0	<5.0
Total Xylenes	<10.0	<10.0	<5.0	1.4(J)
Total VOCs	5.3	230	130.6	166.1
METALS				
Lead	16.0	<1	3.5	<2.5
Arsenic	10.0	<1.5	<3.8	6.3

NOTES:
(*) Analyses performed by Inchape Testing Services; NJDEP Laboratory Certification 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(1) - EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) - EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1,1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(13)-04	LS-2(13)-05	LS-2(13)-06	LS-2(13)-07
Lab Sample No.	D97-11886-2	D97-14402-3	E921-67692	I607-92999
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	9/30/97	11/21/97	6/22/98	10/28/98
Compound (ug/l) BNAs		(*)	(**)	(**)
N-Nitrosodimethylamine	<5.0	<5.0	<0.7	<1.4
Phenol	<1.5	<1.5	<1.3	<2.7
Bis(2-chloroethyl)ether	<5.7	<5.7	<0.9	<1.8
2-Chlorophenol	<3.3	<3.3	<2.8	<5.7
1,3-Dichlorobenzene	<1.9	<1.9	<1.0	<2.0
1,4-Dichlorobenzene	<4.4	<4.4	6.0	<2.2
1,2-Dichlorobenzene	7.5	<1.9	<0.9	<1.8
Bis(2-chloroisopropyl)ether	<5.7	<5.7	<0.8	<1.7
Hexachloroethane	<1.6	<1.6	<0.8	<1.6
Nitrobenzene	<1.9	<1.9	<1.0	<2.0
Isophorone	<2.2	<2.2	<0.8	<1.7
2,4-Dimethylphenol	<2.7	<2.7	<2.8	<5.8
2-Nitrophenol	<3.8	<3.8	<2.7	<5.5
2,4-Dichlorophenol	<2.7	<2.7	<2.8	<5.8
1,2,4-Trichlorobenzene	<!.9	<1.9	<1.2	<2.3
Naphthalene	<1.8	<1.8	<1.0	<2.0
Hexachlorobutadiene	<0.9	<0.9	<0.6	<1.1
Hexachlorocyclopentadiene	<5.0	<5.0	<0.4	<0.9
2,4,6-Trichlorophenol	<2.7	<2.7	<2.5	<5.2
Dimethylphthalate	<1.8	<1.8	<0.5	<1.0
2,6-Dinitrotoluene	<1.9	<1.9	<0.4	<0.8
Acenaphthylene	<3.5	<3.5	<0.6	<1.4
2,4-Dinitrophenol	<42.0	<42.0	<1.2	<2.6
4-Nitrophenol	<3.8	<3.8	>0.7	<1.4
2,4-Dinitrotoluene	<5.7	<5.7	<0.5	<1.1
Diethylphthalate	<1.9	<1.9	<0.3	<0.6
Fluorene	<1.9	<1.9	<0.5	<1.0
4,6-Dinitro-2-methylphenol	<24.0	<24.0	<2.3	<4.3
N-Nitrosodiphenylamine	<1.9	<1.9	<0.4	<0.8
Hexachlorobenzene	<1.9	<1.9	<0.4	<0.9
Pentachlorophenol	<3.5	<3.5	<2.7	<5.6
Phenanthrene	<5.4	<5.4	<0.3	<0.6
Anthracene	<1.9	<1.9	<0.3	<0.6
Di-n-butylphthalate	<2.5	<2.5	<0.3	<0.6

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(13)-04	LS-2(13)-05	LS-2(13)-06	LS-2(13)-07
Lab Sample No.	D97-11886-2	D97-14402-3	E921-67692	I607-92999
Depth (feet)	N/A	N/A	N/A	N/A
Type	Aqueous	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	9/30/97	11/21/97	6/22/98	10/28/98
Compound (ug/l)				
BNAs		(*)	(**)	(**)
Fluoranthene	<2.2	<2.2	<0.3	<0.5
Benzidine	<5.7	<5.7	<19	<40
Pyrene	<1.9	<1.9	<0.2	<0.4
Butylbenzylphthalate	<2.5	<2.5	<0.5	<1.1
bis(2-Ethylhexyl)phthalate	<2.5	<2.5	1.1	<2.2
3,3'-Dichlorobenzidine	<16.5	<16.5	<1.6	<3.4
Benzo(a)anthracene	<7.8	<7.8	<0.2	<0.4
Chrysene	<2.5	<2.5	<0.3	<0.5
Benzo(b)fluroanthene	<4.8	<4.8	<0.1	<0.2
Benzo(k)fluoranthene	<2.5	<2.5	<0.2	<0.3
Benzo(a)pyrene	<2.5	<2.5	<0.1	<0.3
Indeno(1,2,3-cd)pyrene	<3.7	<3.7	<0.1	<0.3
Dibenzo(a,h)anthracene	<2.5	<2.5	<0.2	<0.4
Benzo(g,h,i)perylene	<4.1	<4.1	<0.1	<0.2
1,2,4,5-Tetrachlorobenzene	<10.0	<10.0	<20	<41
Pentachlorobenzene	<10.0	<10.0	<20	<41
PCBs				
Aroclor 1016	<0.50	<0.50	<0.30	<0.30
Aroclor 1221	<0.50	<0.50	<0.40	<0.30
Aroclor 1232	<0.50	<0.50	<0.30	<0.40
Aroclor 1242	<0.50	<0.50	<0.30	<0.20
Aroclor 1248	<0.50	<0.50	<0.30	<0.30
Aroclor 1254	<0.50	<0.50	<0.40	<0.40
Aroclor 1260	<0.50	<0.50	<0.20	<0.20
DISSOLVED PCBs			(1)	(2)
Aroclor 1016	<0.50	<0.50	<0.30	<0.30
Aroclor 1221	<0.50	<0.50	<0.40	<0.30
Aroclor 1232	<0.50	<0.50	<0.30	<0.40
Aroclor 1242	<0.50	<0.50	<0.30	<0.20
Aroclor 1248	<0.50	<0.50	<0.30	<0.30
Aroclor 1254	<0.50	<0.50	<0.40	<0.40
Aroclor 1260	<0.50	<0.50	<0.20	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716
(**) Analyses performed by Envirotech Research Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) Lab Sample No for this analysis is E921-67702
(2) Lab Sample No. for this analysis is I607-93008

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(18)-01	LS-2(18)-02
Lab Sample No.	D98-3810-6	G783-80543
Depth (feet)	N/A	N/A
Type	AQUEOUS	AQUEOUS
Date Collected	5/18/98	8/26/98
Compound (ug/l)		
VOLATILES	(1)(*)	(2)(**)
Chloromethane	<10.0	<5.0
Bromomethane	<10.0	<5.0
Vinyl chloride	81.4	35
Chloroethane	<10.0	<5.0
Methylene chloride	<5.0	1.6(J)(B)
Acetone	22(J)	42
Carbon disulfide	2.7(J)	1.6(J)
1,1-Dichloroethene	<5.0	<2.0
1,1-Dichloroethane	<5.0	<5.0
cis -1,2-Dichloroethene	147	65
trans-1,2-Dichloroethene	23.4	9.4
Chloroform	<5.0	<5.0
1,2-Dichloroethane	16.0	<2.0
2-Butanone	23.7(J)	<5.0
1,1,1-Trichloroethane	<5.0	<5.0
Carbon tetrachloride	<5.0	<2.0
Bromodichloromethane	<5.0	<1.0
1,2-Dichloropropane	<5.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0
Trichloroethene	29.1	16
Chlorodibromomethane	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<3.0
Benzene	156	97
trans-1,3-Dichloropropene	<5.0	<5.0
Bromoform	<5.0	<4.0
4-Methyl-2-pentanone	<50.0	2.3(J)
2-Hexanone	<50.0	<5.0
Tetrachloroethene	<5.0	0.6(J)
Toluene	148	82
1,1,2,2-Tetrachloroethane	<5.0	<1.0
Chlorobenzene	87.8	72
Ethylbenzene	31.2	24
Styrene	<5.0	<5.0
Total Xylenes	85.8	52
Total VOCs	838	501
METALS		
Arsenic	1.0(B')	<2.8
Lead	10.9	2.2

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(B) - Compound detected in method blank. This could indicate possible contamination of the environmental sample.
(B') - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(18)-01	LS-2(18)-02
Lab Sample No.	D98-3810-6	G783-80543
Depth (feet)	N/A	N/A
Type	AQUEOUS	AQUEOUS
Date Collected	5/18/98	8/26/98
Compound (ug/l) BNAs	(*)	(**)
N-Nitrosodimethylamine	1.7(J)	<0.7
Phenol	33.0	34
Bis(2-chloroethyl)ether	<6.0	<1.2
2-Chlorophenol	<3.3	<2.1
1,3-Dichlorobenzene	1.7(J)	<3.4
1,4-Dichlorobenzene	5.3	<3.5
1,2-Dichlorobenzene	31.8	<3.4
Bis(2-chloroisopropyl)ether	<6.0	<1.4
Hexachloroethane	<2.0	<2.4
Nitrobenzene	<2.0	<1.5
Isophorone	<2.2	<1.7
2,4-Dimethylphenol	1.8(J)	<2.8
2-Nitrophenol	<4.0	<3.1
2,4-Dichlorophenol	<3.0	<2.9
1,2,4-Trichlorobenzene	<2.0	<3.7
Naphthalene	13.6	23
Hexachlorobutadiene	<1.0	<2.1
Hexachlorocyclopentadiene	<5.0	<1.6
2,4,6-Trichlorophenol	1.2(J)	<3.0
Dimethylphthalate	<2.0	<1.3
2,6-Dinitrotoluene	<2.0	<1.5
Acenaphthylene	<4.0	<2.0
2,4-Dinitrophenol	<42.0	<5.7
4-Nitrophenol	<4.0	<1.2
2,4-Dinitrotoluene	<6.0	<1.5
Diethylphthalate	<2.0	<1.2
Fluorene	1.1(J)	<1.9
4,6-Dinitro-2-methylphenol	<24.0	<4.0
N-Nitrosodiphenylamine	2.1	3.2
Hexachlorobenzene	<2.0	<1.2
Pentachlorophenol	<4.0	<2.5
Phenanthrene	1.4(J)	2.1
Anthracene	<2.0	<1.1
Di-n-butylphthalate	<3.0	<1.0

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Certification No. 12543.
N/A - Not Applicable
(J) Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(18)-01	LS-2(18)-02
Lab Sample No.	D98-3810-6	G783-80543
Depth (feet)	N/A	N/A
Type	AQUEOUS	AQUEOUS
Date Collected	5/18/98	8/26/98
Compound (ug/l)		
BNAs	(*)	(**)
Fluoranthene	<2.2	<1.1
Benzidine	<6.0	<0.5
Pyrene	<2.0	<0.6
Butylbenzylphthalate	<3.0	<0.7
bis(2-Ethylhexyl)phthalate	<3.0	<1.1
3,3'-Dichlorobenzidine	<17.0	<1.4
Benzo(a)anthracene	<8.0	<0.8
Chrysene	<3.0	<0.9
Benzo(b)fluroanthene	<5.0	<0.7
Benzo(k)fluoranthene	<3.0	<0.9
Benzo(a)pyrene	<3.0	<0.8
Indeno(1,2,3-cd)pyrene	<4.0	<0.7
Dibenzo(a,h)anthracene	<3.0	<0.8
Benzo(g,h,i)perylene	<4.1	<0.7
1,2,4,5-Tetrachlorobenzene	<10.0	<20
Pentachlorobenzene	<10.0	<20
PCBs		
Aroclor 1016	<0.500	<0.30
Aroclor 1221	<1.00	<0.40
Aroclor 1232	<1.00	<0.30
Aroclor 1242	<1.00	<0.30
Aroclor 1248	<1.00	<0.30
Aroclor 1254	<1.00	<0.40
Aroclor 1260	<0.500	<0.20
DISSOLVED PCBs		(1)
Aroclor 1016	<0.515	<0.30
Aroclor 1221	<1.03	<0.40
Aroclor 1232	<1.03	<0.30
Aroclor 1242	<1.03	<0.30
Aroclor 1248	<1.03	<0.30
Aroclor 1254	<1.03	<0.40
Aroclor 1260	<0.515	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Ennvirotech Research, Inc.; NJDEP Laboratory
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyls (PCBs)
(1) Lab Sample No. for this analysis is G783-80552

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(19)-01	LS-2(19)-02
Lab Sample No.	D98-3810-7	G783-80544
Depth (feet)	N/A	N/A
Type	AQUEOUS	AQUEOUS
Date Collected	5/18/98	8/26/98
Compound (ug/l) VOLATILES	(1)(*)	(2)(**)
Chloromethane	<10.0	<5.0
Bromomethane	<10.0	<5.0
Vinyl chloride	85.2	40
Chloroethane	<10.0	<5.0
Methylene chloride	<5.0	1.4(J)(B)
Acetone	<100	30
Carbon disulfide	<5.0	1.0(J)
1,1-Dichloroethene	<5.0	<2.0
1,1-Dichloroethane	<5.0	<5.0
cis -1,2-Dichloroethene	200	72
trans-1,2-Dichloroethene	24.3	10
Chloroform	<5.0	<5.0
1,2-Dichloroethane	13.8	7.5
2-Butanone	<50.0	<5.0
1,1,1-Trichloroethane	<5.0	<5.0
Carbon tetrachloride	<5.0	<2.0
Bromodichloromethane	<5.0	<1.0
1,2-Dichloropropane	<5.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0
Trichloroethene	28.4	19
Chlorodibromomethane	<5.0	<5.0
1,1,2-Trichloroethane	<5.0	<3.0
Benzene	169	100
trans-1,3-Dichloropropene	<5.0	<5.0
Bromoform	<5.0	<4.0
4-Methyl-2-pentanone	<50.0	1.8(J)
2-Hexanone	<50.0	<5.0
Tetrachloroethene	<5.0	0.6(J)
Toluene	188	100
1,1,2,2-Tetrachloroethane	3.7(J)	<1.0
Chlorobenzene	91.6	78
Ethylbenzene	35.0	28
Styrene	<5.0	<5.0
Total Xylenes	102.7	64
Total VOCs	942	553
METALS		
Arsenic	<1.0	<2.8
Lead	7.2	2.3

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
(B) - The analyte was found in the laboratory blank as well as the sample indicating possible laboratory contamination of the environmental sample.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
N/A - Not Applicable
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(19)-01	LS-2(19)-02
Lab Sample No.	D98-3810-7	G783-80544
Depth (feet)	N/A	N/A
Type	AQUEOUS	AQUEOUS
Date Collected	5/18/98	8/26/98
Compound (ug/l) BNAs	(*)	(**)
N-Nitrosodimethylamine	<5.0	<0.7
Phenol	42.9	36
Bis(2-chloroethyl)ether	<6.0	<1.2
2-Chlorophenol	<3.3	<2.2
1,3-Dichlorobenzene	1.7(J)	<3.5
1,4-Dichlorobenzene	5.6	6.0
1,2-Dichlorobenzene	33.3	25
Bis(2-chloroisopropyl)ether	<6.0	<1.4
Hexachloroethane	<2.0	<2.4
Nitrobenzene	<2.0	<1.5
Isophorone	<2.2	<1.7
2,4-Dimethylphenol	1.9(J)	<2.8
2-Nitrophenol	<4.0	<3.2
2,4-Dichlorophenol	<3.0	<2.8
1,2,4-Trichlorobenzene	<2.0	<3.8
Naphthalene	15.3	25
Hexachlorobutadiene	<1.0	<2.2
Hexachlorocyclopentadiene	<5.0	<1.7
2,4,6-Trichlorophenol	<3.0	<3.1
Dimethylphthalate	<2.0	<1.3
2,6-Dinitrotoluene	<2.0	<1.5
Acenaphthylene	<4.0	<2.1
2,4-Dinitrophenol	<42.0	<5.8
4-Nitrophenol	<4.0	<1.2
2,4-Dinitrotoluene	<6.0	<1.5
Diethylphthalate	<2.0	<1.2
Fluorene	1.2(J)	2.0
4,6-Dinitro-2-methylphenol	<24.0	<4.2
N-Nitrosodiphenylamine	2.3	2.6
Hexachlorobenzene	<2.0	<1.3
Pentachlorophenol	<4.0	<2.6
Phenanthrene	1.5(J)	<1.1
Anthracene	<2.0	<1.1
Di-n-butylphthalate	<3.0	<1.0

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, inc.; NJDEP Laboratory Certification No. 12543.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
N/A - Not Applicable

TABLE A-8(CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(19)-01	LS-2(19)-02
Lab Sample No.	D98-3810-7	G783-80544
Depth (feet)	N/A	N/A
Type	AQUEOUS	AQUEOUS
Date Collected	5/18/98	8/26/98
Compound (ug/l)		
BNAs	(*)	(**)
Fluoranthene	<2.2	<1.1
Benzidine	<6.0	<0.5
Pyrene	<2.0	<0.6
Butylbenzylphthalate	<3.0	<0.7
bis(2-Ethylhexyl)phthalate	<3.0	<1.2
3,3'-Dichlorobenzidine	<17.0	<1.5
Benzo(a)anthracene	<8.0	<0.9
Chrysene	<3.0	<0.9
Benzo(b)fluroanthene	<5.0	<0.8
Benzo(k)fluoranthene	<3.0	<0.9
Benzo(a)pyrene	<3.0	<0.8
Indeno(1,2,3-cd)pyrene	<4.0	<0.7
Dibenzo(a,h)anthracene	<3.0	<0.9
Benzo(g,h,i)perylene	<4.1	<0.8
1,2,4,5-Tetrachlorobenzene	<10.0	<20
Pentachlorobenzene	<10.0	<20
PCBs		
Aroclor 1016	<0.500	<0.30
Aroclor 1221	<1.00	<0.40
Aroclor 1232	<1.00	<0.30
Aroclor 1242	<1.00	<0.30
Aroclor 1248	<1.00	<0.30
Aroclor 1254	<1.00	<0.40
Aroclor 1260	<0.500	<0.20
DISSOLVED PCBs		(1)
Aroclor 1016	<0.510	<0.30
Aroclor 1221	<1.02	<0.40
Aroclor 1232	<1.02	<0.30
Aroclor 1242	<1.02	<0.30
Aroclor 1248	<1.02	<0.30
Aroclor 1254	<1.02	<0.40
Aroclor 1260	<0.510	<0.20

NOTES:
(*) Aanalyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) Lab Sample No. for this analysis is G783-80553

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(20)-01	LS-2(20)-02	LS-2(20)-03
Lab Sample No.	D98-3166-3	F763-73119	H772-87305
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	4/22/98	7/22/98	9/30/98
Compound (ug/l) VOLATILES	(1)(*)	(2)(**)	(2)(**)
Chloromethane	<10.0	<10	<5.0
Bromomethane	<10.0	<10	<5.0
Vinyl chloride	<10.0	130	5.5
Chloroethane	<10.0	<10	<5.0
Methylene chloride	<5.0	<6.0	<3.0
Acetone	<100.0	<10	<5.0
Carbon disulfide	<5.0	<10	<5.0
1,1-Dichloroethene	<5.0	<4.0	<2.0
1,1-Dichloroethane	<5.0	<10	<5.0
cis -1,2-Dichloroethene	<5.0	350	6.4
trans-1,2-Dichloroethene	<5.0	41	2.6(J)
Chloroform	<5.0	<10	<5.0
1,2-Dichloroethane	<5.0	<4.0	<2.0
2-Butanone	<50.0	<10	<5.0
1,1,1-Trichloroethane	<5.0	<10	<5.0
Carbon tetrachloride	<5.0	<4.0	<2.0
Bromodichloromethane	<5.0	<2.0	<1.0
1,2-Dichloropropane	<5.0	<2.0	<1.0
cis-1,3-Dichloropropene	<5.0	<10	<5.0
Trichloroethene	<5.0	91	<1.0
Chlorodibromomethane	<5.0	<10	<5.0
1,1,2-Trichloroethane	<5.0	<6.0	<3.0
Benzene	<5.0	210	12
trans-1,3-Dichloropropene	<5.0	<10	<5.0
Bromoform	<5.0	<8.0	<4.0
4-Methyl-2-pentanone	<50.0	9.0(J)	<5.0
2-Hexanone	<50.0	<10	<5.0
Tetrachloroethene	<5.0	<2.0	<1.0
Toluene	19.1	220	6.7
1,1,2,2-Tetrachloroethane	<5.0	<2.0	<1.0
Chlorobenzene	<5.0	130	4.2(J)
Ethylbenzene	3.9(J)	32	1.4(J)
Styrene	<5.0	<10	<5.0
Total Xylenes	14.1(J)	95	3.5(J)
Total VOCs	37.1	1308	42.3(J)
METALS			
Arsenic	<1.0	5.5	<2.8
Lead	8.9	18.4	<2.0

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, inc.; NJDEP Laboratory Certification No. 12543.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
N/A - Not Applicable
(1) EPA Method 8240 - Volatile Organic Compounds (VOCs)
(2) EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8(CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(20)-01	LS-2(20)-02	LS-2(20)-03
Lab Sample No.	D98-3166-3	F763-73119	H772-87305
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	4/22/98	7/22/98	9/30/98
Compound (ug/l) BNAs			
N-Nitrosodimethylamine	<5.0	<1.4	<0.7
Phenol	<1.5	<2.2	<1.3
Bis(2-chloroethyl)ether	<5.7	<2.5	<0.9
2-Chlorophenol	<3.3	<4.3	<2.8
1,3-Dichlorobenzene	<1.9	<7.0	<1.0
1,4-Dichlorobenzene	3.3(J)	<7.1	<1.1
1,2-Dichlorobenzene	25.2	53	<0.9
Bis(2-chloroisopropyl)ether	<5.7	<2.8	<0.8
Hexachloroethane	<1.6	<4.9	<0.8
Nitrobenzene	<1.9	<3.0	<1.0
Isophorone	<2.2	<3.4	<0.8
2,4-Dimethylphenol	<2.7	<5.6	<2.8
2-Nitrophenol	<3.8	<6.2	<2,7
2,4-Dichlorophenol	<2.7	<6.0	<2.8
1,2,4-Trichlorobenzene	<1.9	7.6	<1.1
Naphthalene	2.2	<5.1	<1.0
Hexachlorobutadiene	<0.9	<4.4	<0.6
Hexachlorocyclopentadiene	<5.0	<3.3	<0.4
2,4,6-Trichlorophenol	<2.7	<6.2	<2.5
Dimethylphthalate	<1.8	<2.6	<0.5
2,6-Dinitrotoluene	<1.9	<3.0	<0.4
Acenaphthylene	<3.5	<4.1	<0.7
2,4-Dinitrophenol	<42.0	<12	<1.3
4-Nitrophenol	<3.8	<2.4	<0.7
2,4-Dinitrotoluene	<5.7	<3.0	<0.5
Diethylphthalate	<1.9	<2.4	<0.3
Fluorene	<1.9	<4.0	<0.5
4,6-Dinitro-2-methylphenol	<24.0	<8.2	<2.1
N-Nitrosodiphenylamine	<1.9	<2.2	<0.4
Hexachlorobenzene	<1.9	<2.5	<0.4
Pentachlorophenol	<3.5	<5.1	<2.8
Phenanthrene	<5.4	<2.1	<0.3
Anthracene	<1.9	<2.2	<0.3
Di-n-butylphthalate	<2.5	<2.0	<0.3

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
N/A - Not Applicable
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(20)-01	LS-2(20)-02	LS-2(20)-03
Lab Sample No.	D98-3166-3	F763-73119	H772-87305
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	4/22/98	7/22/98	9/30/98
Compound (ug/l)			
BNAs			
Fluoranthene	<2.2	<2.2	<0.3
Benzidine	<5.7	<1.0	<20
Pyrene	<1.9	<1.2	<0.2
Butylbenzylphthalate	<2.5	<1.3	<0.5
bis(2-Ethylhexyl)phthalate	<2.5	<2.3	2.2
3,3'-Dichlorobenzidine	<16.5	<2.9	<1.6
Benzo(a)anthracene	<7.8	<1.7	<0.2
Chrysene	<2.5	<1.8	<0.3
Benzo(b)fluroanthene	<4.8	<1.5	<0.1
Benzo(k)fluoranthene	<2.5	<1.9	<0.2
Benzo(a)pyrene	<2.5	<1.6	<0.2
Indeno(1,2,3-cd)pyrene	<3.7	<1.4	<0.2
Dibenzo(a,h)anthracene	<2.5	<1.7	<0.2
Benzo(g,h,i)perylene	<4.1	<1.5	<0.1
1,2,4,5-Tetrachlorobenzene	<10.0	<41	<20
Pentachlorobenzene	<10.0	<41	<20
PCBs			
Aroclor 1016	<1.00	<0.30	<0.30
Aroclor 1221	<2.00	<0.40	<0.30
Aroclor 1232	<2.00	<0.30	<0.40
Aroclor 1242	<2.00	<0.30	<0.20
Aroclor 1248	<2.00	<0.30	<0.30
Aroclor 1254	<2.00	<0.40	<0.40
Aroclor 1260	<1.00	<0.20	<0.20
DISSOLVED PCBs		(1)	
Aroclor 1016	<1.00	<0.30	<0.30
Aroclor 1221	<2.00	<0.40	<0.30
Aroclor 1232	<2.00	<0.30	<0.40
Aroclor 1242	<2.00	<0.30	<0.20
Aroclor 1248	<2.00	<0.30	<0.30
Aroclor 1254	<2.00	<0.40	<0.40
Aroclor 1260	<1.00	<0.20	<0.20

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
N/A - Not Applicable
NA - Not Analyzed
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) The Lab Sample No. for this analysis is F763-73128
(2) The Lab Sample No. for this analysis is H772-87315

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(21)-01	LS-2(21)-02	LS-2(21)-03
Lab Report No.	E921-67695	G783-80545	I607-93000
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	6/22/98	8/26/98	10/28/98
Compound (ug/l) VOLATILES			
Chloromethane	<5.0	<5.0	<10
Bromomethane	<5.0	<5.0	<10
Vinyl chloride	53	40	110
Chloroethane	<5.0	<5.0	<10
Methylene chloride	<5.0	1.4(J)(B)	<6.0
Acetone	24	49	43
Carbon disulfide	4.5(J)	0.6(J)	<10
1,1-Dichloroethene	<2.0	<2.0	<4.0
1,1-Dichloroethane	<5.0	<5.0	<10
cis -1,2-Dichloroethene	92	73	130
trans-1,2-Dichloroethene	17	11	18
Chloroform	<5.0	<5.0	<10
1,2-Dichloroethane	<2.0	<2.0	<4.0
2-Butanone	<5.0	<5.0	<10
1,1,1-Trichloroethane	<5.0	<5.0	<10
Carbon tetrachloride	<2.0	<2.0	<4.0
Bromodichloromethane	<1.0	<1.0	<2.0
1,2-Dichloropropane	<1.0	<1.0	<2.0
cis-1,3-Dichloropropene	<5.0	<5.0	<10
Trichloroethene	24	20	28
Chlorodibromomethane	<5.0	<5.0	<10
1,1,2-Trichloroethane	<3.0	<3.0	<6.0
Benzene	160	110	230
trans-1,3-Dichloropropene	<5.0	<5.0	<10
Bromoform	<4.0	<4.0	<8.0
4-Methyl-2-pentanone	<5.0	2.7(J)	<10
2-Hexanone	<5.0	<5.0	<10
Tetrachloroethene	0.7(J)	0.6(J)	1.2(J)
Toluene	190	150	180
1,1,2,2-Tetrachloroethane	<1.0	<1.0	<2.0
Chlorobenzene	91	54	78
Ethylbenzene	32	29	38
Styrene	<5.0	<5.0	1.9(J)
Total Xylenes	95	81	120
Total VOCs	783	622	978
METALS			
Arsenic	<3.8	<2.8	4.8
Lead	<2.5	5.5	3.6

NOTES:
Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(B) - Compound was detected in the method blank as well as the sample. This could indicate possible contamination of the environmental sample.
N/A - Not Applicable
EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(21)-01	LS-2(21)-02	LS-2(21)-03
Lab Report No.	E921-67695	G783-80545	I607-93000
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	6/22/98	8/26/98	10/28/98
Compound (ug/l) BNAs			
N-Nitrosodimethylamine	<0.7	<0.7	<0.7
Phenol	32	28	33
Bis(2-chloroethyl)ether	<0.9	<1.2	<0.9
2-Chlorophenol	<2.8	<2.1	<2.8
1,3-Dichlorobenzene	<1.0	<3.4	<1.0
1,4-Dichlorobenzene	3.7	4.4	3.6
1,2-Dichlorobenzene	20	16	13
Bis(2-chloroisopropyl)ether	<0.8	<1.4	<0.8
Hexachloroethane	<0.8	<2.4	<0.8
Nitrobenzene	<1.0	<1.5	<1.0
Isophorone	<0.8	<1.7	<0.8
2,4-Dimethylphenol	<2.8	<2.8	<2.8
2-Nitrophenol	<2.7	<3.1	<2.7
2,4-Dichlorophenol	<2.8	<2.9	<2.9
1,2,4-Trichlorobenzene	<1.2	<3.7	<1.1
Naphthalene	17	36	60
Hexachlorobutadiene	<0.6	<2.1	<0.6
Hexachlorocyclopentadiene	<0.4	<1.6	<0.4
2,4,6-Trichlorophenol	<2.5	<3.0	<2.6
Dimethylphthalate	<0.5	<1.3	<0.5
2,6-Dinitrotoluene	<0.4	<1.5	<0.4
Acenaphthylene	<0.7	<2.0	<0.7
2,4-Dinitrophenol	<1.2	<5.7	<1.3
4-Nitrophenol	<0.7	<1.2	<0.7
2,4-Dinitrotoluene	<0.5	<1.5	<0.6
Diethylphthalate	<0.3	<1.2	<0.3
Fluorene	2.0	3.2	<0.5
4,6-Dinitro-2-methylphenol	<2.3	<4.0	<2.1
N-Nitrosodiphenylamine	2.2	1.6	<0.4
Hexachlorobenzene	<0.4	<1.2	<0.4
Pentachlorophenol	<2.7	<2.5	<2.8
Phenanthrene	2.1	2.9	6.0
Anthracene	<0.3	1.2	1.5
Di-n-butylphthalate	<0.3	<1.0	<0.3

NOTES:
Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8(CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(21)-01	LS-2(21)-02	LS-2(21)-03
Lab Report No.	E921-67695	G783-80545	I607-93000
Depth (feet)	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	6/22/98	8/26/98	10/28/98
Compound (ug/l)			
BNAs			
Fluoranthene	<0.3	1.3	1.3
Benzidine	<19	<0.5	<20
Pyrene	<0.2	0.8	<0.7
Butylbenzylphthalate	<0.5	<0.7	<0.6
bis(2-Ethylhexyl)phthalate	1.2	<1.1	3.8
3,3'-Dichlorobenzidine	<1.6	<1.4	<1.7
Benzo(a)anthracene	<0.2	<0.8	<0.2
Chrysene	<0.3	<0.9	<0.3
Benzo(b)fluroanthene	<0.1	<0.7	<0.1
Benzo(k)fluoranthene	<0.2	<0.9	<0.2
Benzo(a)pyrene	<0.1	<0.8	<0.2
Indeno(1,2,3-cd)pyrene	<0.1	<0.7	<0.2
Dibenz(a,h)anthracene	<0.2	<0.8	<0.2
Benzo(g,h,i)perylene	<0.1	<0.7	<0.1
1,2,4,5-Tetrachlorobenzene	<20	<20	<20
Pentachlorobenzene	<20	<20	<20
PCBs			
Aroclor 1016	<0.30	<0.30	<0.30
Aroclor 1221	<0.40	<0.40	<0.30
Aroclor 1232	<0.30	<0.30	<0.40
Aroclor 1242	<0.30	<0.30	<0.20
Aroclor 1248	<0.30	<0.30	<0.30
Aroclor 1254	<0.40	<0.40	<0.40
Aroclor 1260	<0.20	<0.20	<0.20
DISSOLVED PCBs	(1)	(2)	(3)
Aroclor 1016	<0.30	<0.30	<0.30
Aroclor 1221	<0.40	<0.40	<0.30
Aroclor 1232	<0.30	<0.30	<0.40
Aroclor 1242	<0.30	<0.30	<0.20
Aroclor 1248	<0.30	<0.30	<0.30
Aroclor 1254	<0.40	<0.40	<0.40
Aroclor 1260	<0.20	<0.20	<0.20

NOTES:
Analyses performed by Envirotech Research Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) The Lab Sample No. for this analysis is E921-67695
(2) The Lab Sample No. for this analysis is G783-80554
(3) The Lab Sample No. for this analysis is I607-93009

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(22)-01	LS-2(22)-02	LS-2(22)-03	LS-2(22)-03
Lab Sample No.	D97-14402-4	D97-15123-4	D98-3166-4	H772-87306
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	11/21/97	12/15/97	4/22/98	9/30/98
Compound (ug/l)				
VOLATILES	(1)(*)	(1)(*)	(1)(*)	(2)(**)
Chloromethane	<10.0	<10.0	<10.0	<25
Bromomethane	<10.0	<10.0	<10.0	<25
Vinyl chloride	90.7	17.6	10.8	140
Chloroethane	<10.0	<10.0	<10.0	<25
Methylene chloride	<5.0	<5.0	<5.0	<15
Acetone	115	89(J)	40(J)	61
Carbon disulfide	<5.0	<5.0	<5.0	<25
1,1-Dichloroethene	5.1	<5.0	<5.0	<10
1,1-Dichloroethane	<5.0	<5.0	<5.0	<25
cis -1,2-Dichloroethene	596(D)	187	944(D)	350
trans-1,2-Dichloroethene	48.4	12.2	64.2	46
Chloroform	<5.0	<5.0	<5.0	<25
1,2-Dichloroethane	<5.0	<5.0	<5.0	<10
2-Butanone	<50.0	<50.0	<50.0	<25
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<25
Carbon tetrachloride	<5.0	<5.0	<5.0	<10
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<25
Trichloroethene	270(D)	98.4	290(D)	110
Chlorodibromomethane	<5.0	<5.0	<5.0	<25
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<15
Benzene	318(D)	129	37.8	440
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<25
Bromoform	<5.0	<5.0	<5.0	<20
4-Methyl-2-pentanone	13.9(J)	<50.0	<50.0	<25
2-Hexanone	<50.0	<50.0	<50.0	<25
Tetrachloroethene	<5.0	<5.0	4.7(J)	4.4(J)
Toluene	311(D)	144	138	320
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	50.9	21.6	23.1	140
Ethylbenzene	19.2	7.8	11.5	42
Styrene	<5.0	<5.0	<5.0	<25
Total Xylenes	66.3	28.0	54.3	140
Total VOCs	1905	735	1618	1793
METALS				
Arsenic	3	2	<1.0	5.8
Lead	21.6	2.4	4.0	<2.0

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(D) - Indicates an analysis at a secondary dilution
EPA Method 7060 - Arsenic (1) - EPA Method 8240 - Volatile Organic Compounds (VOCs)
EPA Method 7421 - Lead (2) - EPA Method 8260 - Volatile Organic Compounds (VOCs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(22)-01	LS-2(22)-02	LS-2(22)-03	LS-2(22)-03
Lab Sample No.	D97-14402-4	D97-15123-4	D98-3166-4	H772-87306
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	11/21/97	12/15/97	4/22/98	9/30/98
Compound (ug/l) BNAs	(*)	(*)	(*)	(**)
N-Nitrosodimethylamine	<5.0	<27.5(D)	<5.0	<3.4
Phenol	<1.5	1860(D)	6.9	40
Bis(2-chloroethyl)ether	<5.7	<31.6(D)	<5.7	<4.4
2-Chlorophenol	<3.3	18.2(D)	2.4(J)	<14
1,3-Dichlorobenzene	<1.9	<10.5(D)	<1.9	2.9(J)
1,4-Dichlorobenzene	<4.4	24.2(D)	6.0	12
1,2-Dichlorobenzene	<1.9	10.5(D)	29.6	40
Bis(2-chloroisopropyl)ether	<5.7	<31.4(D)	<5.7	<4.1
Hexachloroethane	<1.6	<8.8(D)	<1.6	<3.9
Nitrobenzene	<1.9	<10.5(D)	<1.9	<4.8
Isophorone	<2.2	<12.0(D)	<2.2	<4.0
2,4-Dimethylphenol	<2.7	<14.9(D)	7.3	<14
2-Nitrophenol	<3.8	<20.9(D)	<3.8	<13
2,4-Dichlorophenol	<2.7	<14.9(D)	<2.7	<14
1,2,4-Trichlorobenzene	<1.9	<10.5(D)	<1.9	<5.6
Naphthalene	<1.8	<9.9(D)	9.8	70
Hexachlorobutadiene	<0.9	<5.0(D)	<0.9	<2.8
Hexachlorocyclopentadiene	<5.0	<27.5(D)	<5.0	<2.1
2,4,6-Trichlorophenol	<2.7	<14.9(D)	<2.7	<13
Dimethylphthalate	<1.8	<9.9(D)	<1.8	<2.4
2,6-Dinitrotoluene	<1.9	<31.4(D)	<1.9	<2.0
Acenaphthylene	<3.5	<19.3(D)	<3.5	<3.0
2,4-Dinitrophenol	<42.0	231(D)	<42.0	<6.2
4-Nitrophenol	<3.8	<20.9(D)	<3.8	<3.4
2,4-Dinitrotoluene	<5.7	<31.4(D)	<5.7	<2.7
Diethylphthalate	<1.9	<10.5(D)	<1.9	<1.4
Fluorene	<1.9	<10.5(D)	<1.9	<2.6
4,6-Dinitro-2-methylphenol	<24.0	132(D)	<24.0	<10
N-Nitrosodiphenylamine	<1.9	<10.5(D)	1.7(J)	<2.0
Hexachlorobenzene	<1.9	<10.5(D)	<1.9	<2.2
Pentachlorophenol	<3.5	<19.3(D)	<3.5	<14
Phenanthrene	<5.4	<29.7(D)	<5.4	11
Anthracene	<1.9	<10.5(D)	<1.9	2.2
Di-n-butylphthalate	<2.5	<12.1(D)	<2.5	<1.4

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(D) - Indicates all compounds in an analysis at a secondary dilution.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	LS-2(22)-01	LS-2(22)-02	LS-2(22)-03	LS-2(22)-03
Lab Sample No.	D97-14402-4	D97-15123-4	D98-3166-4	H772-87306
Depth (feet)	N/A	N/A	N/A	N/A
Type	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
Date Collected	11/21/97	12/15/97	4/22/98	9/30/98
Compound (ug/l)				
BNAs	(*)	(*)	(*)	(**)
Fluoranthene	<2.2	<21.1(D)	<2.2	<1.3
Benzidine	<5.7	<31.4(D)	<5.7	<97
Pyrene	<1.9	10.5(D)	<1.9	<0.9
Butylbenzylphthalate	<2.5	<13.8(D)	<2.5	<2.7
bis(2-Ethylhexyl)phthalate	<2.5	<13.8(D)	<2.5	<5.4
3,3'-Dichlorobenzidine	<16.5	<90.8(D)	<16.5	<8.2
Benzo(a)anthracene	<7.8	42.9(D)	<7.8	<1.0
Chrysene	<2.5	<13.8(D)	<2.5	<1.3
Benzo(b)fluroanthene	<4.8	<42.9(D)	<4.8	<0.5
Benzo(k)fluoranthene	<2.5	<13.8(D)	<2.5	<0.8
Benzo(a)pyrene	<2.5	<13.8(D)	<2.5	<0.8
Indeno(1,2,3-cd)pyrene	<3.7	<20.4(D)	<3.7	<0.8
Dibenzo(a,h)anthracene	<2.5	<13.8(D)	<2.5	<1.0
Benzo(g,h,i)perylene	<4.1	<22.6(D)	<4.1	<0.6
1,2,4,5-Tetrachlorobenzene	<10.0	<55.0(D)	<10.0	<100
Pentachlorobenzene	<10.0	<55.0(D)	<10.0	<100
PCBs				
Aroclor 1016	<0.50	<0.50	<1.00	<0.30
Aroclor 1221	<0.50	<0.50	<2.00	<0.30
Aroclor 1232	<0.50	<0.50	<2.00	<0.40
Aroclor 1242	<0.50	<0.50	<2.00	<0.20
Aroclor 1248	<0.50	<0.50	<2.00	<0.30
Aroclor 1254	<0.50	<0.50	<2.00	<0.40
Aroclor 1260	<0.50	<0.50	<1.00	<0.20
DISSOLVED PCBs				(1)
Aroclor 1016	<0.50	<0.50	<1.00	<0.30
Aroclor 1221	<0.50	<0.50	<2.00	<0.30
Aroclor 1232	<0.50	<0.50	<2.00	<0.40
Aroclor 1242	<0.50	<0.50	<2.00	<0.20
Aroclor 1248	<0.50	<0.50	<2.00	<0.30
Aroclor 1254	<0.50	<0.50	<2.00	<0.40
Aroclor 1260	<0.50	<0.50	<1.00	<0.20

NOTES:
(*) Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
(**) Analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyls (PCBs)
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
(1) Lab Sample No. for this analysis is H772-87316

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-36**
Lab Sample No.	**H772-87310**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**9/30/98**
Compound (ug/l)	
VOLATILES	
Chloromethane	<25
Bromomethane	<25
Vinyl chloride	<25
Chloroethane	<25
Methylene chloride	<15
Acetone	33
Carbon disulfide	<25
1,1-Dichloroethene	<10
1,1-Dichloroethane	<25
cis -1,2-Dichloroethene	<25
trans-1,2-Dichloroethene	<25
Chloroform	<25
1,2-Dichloroethane	<10
2-Butanone	<25
1,1,1-Trichloroethane	<25
Carbon tetrachloride	<10
Bromodichloromethane	<5.0
1,2-Dichloropropane	<5.0
cis-1,3-Dichloropropene	<25
Trichloroethene	<5.0
Chlorodibromomethane	<25
1,1,2-Trichloroethane	<15
Benzene	33
trans-1,3-Dichloropropene	<25
Bromoform	<20
4-Methyl-2-pentanone	<25
2-Hexanone	<25
Tetrachloroethene	<5.0
Toluene	6.6(J)
1,1,2,2-Tetrachloroethane	<5.0
Chlorobenzene	530
Ethylbenzene	<20
Styrene	<25
Total Xylenes	<25
Total VOCs	603
METALS	
Arsenic	14.0
Lead	38.4

Notes:
Analyses performed by Envirotech Research, Inc.;
NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. The flag is used if the compound is detected below the Reported Limit.
EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-36**
Lab Sample No.	**H772-87310**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**9/30/98**
Compound (ug/l)	
BNAs	
N-Nitrosodimethylamine	<3.4
Phenol	<6.5
Bis(2-chloroethyl)ether	<4.4
2-Chlorophenol	<14
1,3-Dichlorobenzene	<5.0
1,4-Dichlorobenzene	3.7(J)
1,2-Dichlorobenzene	120
Bis(2-chloroisopropyl)ether	<4.1
Hexachloroethane	<3.9
Nitrobenzene	<4.8
Isophorone	<4.0
2,4-Dimethylphenol	<14
2-Nitrophenol	<13
2,4-Dichlorophenol	<14
1,2,4-Trichlorobenzene	<5.6
Naphthalene	<4.8
Hexachlorobutadiene	<2.8
Hexachlorocyclopentadiene	<2.1
2,4,6-Trichlorophenol	<13
Dimethylphthalate	<2.4
2,6-Dinitrotoluene	<2.0
Acenaphthylene	<3.4
2,4-Dinitrophenol	<6.2
4-Nitrophenol	<3.4
2,4-Dinitrotoluene	<2.7
Diethylphthalate	<1.4
Fluorene	<2.6
4,6-Dinitro-2-methylphenol	<10
N-Nitrosodiphenylamine	<2.0
Hexachlorobenzene	<2.2
Pentachlorophenol	<14
Phenanthrene	<1.4
Anthracene	<1.4
Di-n-butylphthalate	<1.4

Notes:
Analyses performed by Envirotech Research, Inc.;
NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. The flag is used if the compound is detected below the Reported Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-36**
Lab Sample No.	**H772-87310**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**9/30/98**
Compound (ug/l)	
BNAs	
Fluoranthene	<1.3
Benzidine	<97
Pyrene	<0.9
Butylbenzylphthalate	<2.7
bis(2-Ethylhexyl)phthalate	<5.4
3,3'-Dichlorobenzidine	<8.2
Benzo(a)anthracene	<1.0
Chrysene	<1.3
Benzo(b)fluroanthene	<0.5
Benzo(k)fluoranthene	<0.8
Benzo(a)pyrene	<0.8
Indeno(1,2,3-cd)pyrene	<0.8
Dibenz(a,h)anthracene	<1.0
Benzo(g,h,i)perylene	<0.6
1,2,4,5-Tetrachlorobenzene	<100
Pentachlorobenzene	<100
PCBs	
Aroclor 1016	<0.30
Aroclor 1221	<0.30
Aroclor 1232	<0.40
Aroclor 1242	<0.20
Aroclor 1248	0.97
Aroclor 1254	<0.40
Aroclor 1260	<0.20
DISSOLVED PCBs	(1)
Aroclor 1016	<0.30
Aroclor 1221	<0.30
Aroclor 1232	<0.40
Aroclor 1242	<0.20
Aroclor 1248	<0.30
Aroclor 1254	<0.40
Aroclor 1260	<0.20

Notes:
Analyses performed by Envirotech Research, Inc.;
NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. The flag is used if the compound is detected below the Reported Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) the Lab Sample No. for this analysis is H772-87320

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-37**
Lab Sample No.	**D98-3810-12**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**5/18/98**
Compound (ug/l)	
VOLATILES	
Chloromethane	<10.0
Bromomethane	<10.0
Vinyl chloride	304(D)
Chloroethane	<10.0
Methylene chloride	<5.0
Acetone	<100
Carbon disulfide	<5.0
1,1-Dichloroethene	<5.0
1,1-Dichloroethane	<5.0
cis -1,2-Dichloroethene	2410(D)
trans-1,2-Dichloroethene	95.7
Chloroform	9.8
1,2-Dichloroethane	20.6
2-Butanone	<50.0
1,1,1-Trichloroethane	<5.0
Carbon tetrachloride	<5.0
Bromodichloromethane	<5.0
1,2-Dichloropropane	<5.0
cis-1,3-Dichloropropene	<5.0
Trichloroethene	114
Chlorodibromomethane	<5.0
1,1,2-Trichloroethane	6.0
Benzene	117
trans-1,3-Dichloropropene	<5.0
Bromoform	<5.0
4-Methyl-2-pentanone	<50.0
2-Hexanone	<50.0
Tetrachloroethene	36.4
Toluene	184
1,1,2,2-Tetrachloroethane	194
Chlorobenzene	67.1
Ethylbenzene	13.4
Styrene	<5.0
Total Xylenes	119.6
Total VOCs	3692
METALS	
Arsenic	5.0
Lead	<1.5

NOTES:
Analyses performed by Intertek Testing Services; NJDEP
NJDEP Laboratory Certification No. 82716.
N/A - Not Applicable
(D) - Indicates all compounds in an analysis at a secondary dilution.
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-37**
Lab Sample No.	**D98-3810-12**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**5/18/98**
Compound (ug/l)	
BNAs	
N-Nitrosodimethylamine	<5.0
Phenol	8.6
Bis(2-chloroethyl)ether	<6.0
2-Chlorophenol	1.2(J)
1,3-Dichlorobenzene	25.2
1,4-Dichlorobenzene	76.4
1,2-Dichlorobenzene	71.5
Bis(2-chloroisopropyl)ether	<6.0
Hexachloroethane	<2.0
Nitrobenzene	<2.0
Isophorone	<2.2
2,4-Dimethylphenol	7.2
2-Nitrophenol	<4.0
2,4-Dichlorophenol	<3.0
1,2,4-Trichlorobenzene	3.1
Naphthalene	5.4
Hexachlorobutadiene	<1.0
Hexachlorocyclopentadiene	<5.0
2,4,6-Trichlorophenol	<3.0
Dimethylphthalate	<2.0
2,6-Dinitrotoluene	<2.0
Acenaphthylene	<4.0
2,4-Dinitrophenol	<42.0
4-Nitrophenol	<4.0
2,4-Dinitrotoluene	<6.0
Diethylphthalate	1.9
Fluorene	<2.0
4,6-Dinitro-2-methylphenol	<24.0
N-Nitrosodiphenylamine	16.2
Hexachlorobenzene	<2.0
Pentachlorophenol	<4.0
Phenanthrene	<5.4
Anthracene	<2.0
Di-n-butylphthalate	<3.0

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
N/A - Not Applicable
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	MW-37
Lab Sample No.	D98-3810-12
Depth (feet)	N/A
Type	AQUEOUS
Date Collected	5/18/98
Compound (ug/l)	
BNAs	
Fluoranthene	<2.2
Benzidine	<6.0
Pyrene	<2.0
Butylbenzylphthalate	<3.0
bis(2-Ethylhexyl)phthalate	94.3
3,3'-Dichlorobenzidine	<17.0
Benzo(a)anthracene	<8.0
Chrysene	<3.0
Benzo(b)fluroanthene	<5.0
Benzo(k)fluoranthene	<3.0
Benzo(a)pyrene	<3.0
Indeno(1,2,3-cd)pyrene	<4.0
Dibenzo(a,h)anthracene	<3.0
Benzo(g,h,i)perylene	<4.1
1,2,4,5-Tetrachlorobenzene	<10.0
Pentachlorobenzene	<10.0
PCBs	
Aroclor 1016	<0.500
Aroclor 1221	<1.00
Aroclor 1232	<1.00
Aroclor 1242	<1.00
Aroclor 1248	<1.00
Aroclor 1254	<1.00
Aroclor 1260	<0.500
DISSOLVED PCBs	
Aroclor 1016	<0.515
Aroclor 1221	<1.03
Aroclor 1232	<1.03
Aroclor 1242	<1.03
Aroclor 1248	<1.03
Aroclor 1254	<1.03
Aroclor 1260	<0.515

NOTES:
Analyses performed by Intertek Testing Services; NJDEP Laboratory Certification No. 82716.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-38**
Lab Sample No.	**I607-93002**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**10/28/98**
Compound (ug/l)	
VOLATILES	
Chloromethane	<5.0
Bromomethane	<5.0
Vinyl chloride	<5.0
Chloroethane	<5.0
Methylene chloride	<3.0
Acetone	<5.0
Carbon disulfide	<5.0
1,1-Dichloroethene	<2.0
1,1-Dichloroethane	<5.0
cis -1,2-Dichloroethene	<5.0
trans-1,2-Dichloroethene	<5.0
Chloroform	<5.0
1,2-Dichloroethane	<2.0
2-Butanone	<5.0
1,1,1-Trichloroethane	<5.0
Carbon tetrachloride	<2.0
Bromodichloromethane	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<5.0
Trichloroethene	<1.0
Chlorodibromomethane	<5.0
1,1,2-Trichloroethane	<3.0
Benzene	5.7
trans-1,3-Dichloropropene	<5.0
Bromoform	<4.0
4-Methyl-2-pentanone	<5.0
2-Hexanone	<5.0
Tetrachloroethene	<1.0
Toluene	<5.0
1,1,2,2-Tetrachloroethane	<1.0
Chlorobenzene	12.0
Ethylbenzene	<4.0
Styrene	<5.0
Total Xylenes	1.1(J)
Total VOCs	18.8(J)
METALS	
Arsenic	9.9
Lead	28.0

NOTES:
All analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-38**
Lab Sample No.	**I607-93002**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**10/28/98**
Compound (ug/l)	
BNAs	
N-Nitrosodimethylamine	<3.4
Phenol	<6.6
Bis(2-chloroethyl)ether	<4.5
2-Chlorophenol	<14
1,3-Dichlorobenzene	<5.0
1,4-Dichlorobenzene	<5.5
1,2-Dichlorobenzene	<4.4
Bis(2-chloroisopropyl)ether	<4.2
Hexachloroethane	<4.0
Nitrobenzene	<4.9
Isophorone	<4.1
2,4-Dimethylphenol	<14
2-Nitrophenol	<14
2,4-Dichlorophenol	<14
1,2,4-Trichlorobenzene	<5.7
Naphthalene	<4.8
Hexachlorobutadiene	<2.8
Hexachlorocyclopentadiene	<2.1
2,4,6-Trichlorophenol	<13
Dimethylphthalate	<2.4
2,6-Dinitrotoluene	<2.0
Acenaphthylene	<3.1
2,4-Dinitrophenol	<6.4
4-Nitrophenol	<3.4
2,4-Dinitrotoluene	<2.8
Diethylphthalate	<1.4
Fluorene	<2.6
4,6-Dinitro-2-methylphenol	<11
N-Nitrosodiphenylamine	<2.0
Hexachlorobenzene	<2.2
Pentachlorophenol	<14
Phenanthrene	<1.4
Anthracene	<1.4
Di-n-butylphthalate	<1.5

NOTES:
All analyses performed by Envirotech Research, Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-38**
Lab Sample No.	**I607-93002**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**10/28/98**
Compound (ug/l)	
BNAs	
Fluoranthene	<1.3
Benzidine	<99
Pyrene	<0.9
Butylbenzylphthalate	<2.8
bis(2-Ethylhexyl)phthalate	<5.5
3,3'-Dichlorobenzidine	<8.4
Benzo(a)anthracene	<1.0
Chrysene	<1.3
Benzo(b)fluroanthene	<0.5
Benzo(k)fluoranthene	<0.8
Benzo(a)pyrene	<0.8
Indeno(1,2,3-cd)pyrene	<0.8
Dibenz(a,h)anthracene	<1.1
Benzo(g,h,i)perylene	<0.6
1,2,4,5-Tetrachlorobenzene	<100
Pentachlorobenzene	<100
PCBs	
Aroclor 1016	<0.30
Aroclor 1221	<0.30
Aroclor 1232	<0.40
Aroclor 1242	<0.20
Aroclor 1248	<0.30
Aroclor 1254	<0.40
Aroclor 1260	<0.20
DISSOLVED PCBs	(1)
Aroclor 1016	<0.30
Aroclor 1221	<0.30
Aroclor 1232	<0.40
Aroclor 1242	<0.20
Aroclor 1248	<0.30
Aroclor 1254	<0.40
Aroclor 1260	<0.20

NOTES:
Analyses performed by Envirotech Research Inc.; NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - Base Neutrals and Acid Extractables (BNAs)
EPA Method 608 - Polychlorinated Biphenyls (PCBs)
(1) Lab Sample No. for this analysis is I607-93011

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-41**
Lab Sample No.	**H772-87309**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**9/30/98**
Compound (ug/l)	
VOLATILES	
Chloromethane	<10
Bromomethane	<10
Vinyl chloride	<10
Chloroethane	<10
Methylene chloride	<6.0
Acetone	<10
Carbon disulfide	7.3(J)
1,1-Dichloroethene	<4.0
1,1-Dichloroethane	<10
cis -1,2-Dichloroethene	3.6(J)
trans-1,2-Dichloroethene	<10
Chloroform	<10
1,2-Dichloroethane	<4.0
2-Butanone	<10
1,1,1-Trichloroethane	<10
Carbon tetrachloride	<4.0
Bromodichloromethane	<2.0
1,2-Dichloropropane	<2.0
cis-1,3-Dichloropropene	<10
Trichloroethene	<2.0
Chlorodibromomethane	<10
1,1,2-Trichloroethane	<6.0
Benzene	1.9(J)
trans-1,3-Dichloropropene	<10
Bromoform	<8.0
4-Methyl-2-pentanone	<10
2-Hexanone	<10
Tetrachloroethene	<2.0
Toluene	1.6(J)
1,1,2,2-Tetrachloroethane	<2.0
Chlorobenzene	<10
Ethylbenzene	1.0(J)
Styrene	<10
Total Xylenes	4.2(J)
Total VOCs	20.6(J)
METALS	
Arsenic	19.8
Lead	35.2

Notes:
Analyses performed by Envirotech Research, Inc.;
NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. The flag is used if the compound is detected below the Reported Limit.
EPA Method 8260 - Volatile Organic Compounds (VOCs)
EPA Method 7060 - Arsenic
EPA Method 7421 - Lead

TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

Field Sample No.	**MW-41**
Lab Sample No.	**H772-87309**
Depth (feet)	**N/A**
Type	**AQUEOUS**
Date Collected	**9/30/98**
Compound (ug/l) **BNAs**	
N-Nitrosodimethylamine	<0.7
Phenol	<1.4
Bis(2-chloroethyl)ether	<0.9
2-Chlorophenol	<2.9
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<1.1
1,2-Dichlorobenzene	<0.9
Bis(2-chloroisopropyl)ether	<0.9
Hexachloroethane	<0.8
Nitrobenzene	<1.0
Isophorone	<0.8
2,4-Dimethylphenol	<2.9
2-Nitrophenol	<2.8
2,4-Dichlorophenol	<2.9
1,2,4-Trichlorobenzene	<1.2
Naphthalene	<1.0
Hexachlorobutadiene	<0.6
Hexachlorocyclopentadiene	<0.4
2,4,6-Trichlorophenol	<2.6
Dimethylphthalate	<0.5
2,6-Dinitrotoluene	<0.4
Acenaphthylene	<0.7
2,4-Dinitrophenol	<1.3
4-Nitrophenol	<0.7
2,4-Dinitrotoluene	<0.6
Diethylphthalate	<0.3
Fluorene	<0.5
4,6-Dinitro-2-methylphenol	<2.2
N-Nitrosodiphenylamine	<0.4
Hexachlorobenzene	<0.5
Pentachlorophenol	<2.8
Phenanthrene	<0.3
Anthracene	<0.3
Di-n-butylphthalate	<0.3

Notes:
Analyses performed by Envirotech Research, Inc.;
NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. The flag is used if the compound is detected below the Reported Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Field Blank
Lab Sample No.	D98-692-13
Depth (feet)	N/A
Type	Aqueous
Date Collected	1/21/98
Compound (ppb)	
BASE NEUTRALS	
Hexachloroethane	NA
Indeno(1,2,3-cd)Pyrene	<12
Isophorone	NA
Naphthalene	NA
Nitrobenzene	NA
N-Nitrosodimethylamine	NA
N-Nitrosodiphenylamine	NA
Pentachlorobenzene	NA
Phenanthrene	NA
Pyrene	NA
1,2,4,5-Tetrachlorobenzene	NA
1,2,4-Trichlorobenzene	NA
ACID COMPOUNDS	NA
2-Chlorophenol	NA
2,4-Dichlorophenol	NA
2,4-Dimethyphenol	NA
4,6-Dinitro-O-Cresol	NA
2,4-Dinitrophenol	NA
2-Nitrophenol	NA
4-Nitrophenol	NA
Pentachlorophenol	NA
Phenol	NA
PCBs	
Aroclor 1016	<0.50
Aroclor 1221	<0.50
Aroclor 1232	<0.50
Aroclor 1242	<0.50
Aroclor 1248	<0.50
Aroicor 1254	<0.50
Aroclor 1260	<0.50

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

NA - Not Analyzed

N/A - Not Applicable

EPA Method 625 - BNAs

(J)-Estimated Concentration

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

NJDEP LETTER 1

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

MAR 24 1998

Mr. William Snyder
Manager Site Remediation
AlliedSignal, Inc.
P.O. Box 2105
Morristown, NJ 07962-2105

MAR 1998
Received
AlliedSignal Inc.
Remediation & Evaluation Services

Dear Mr. Snyder:

Re: Universal Oil Products Superfund Site
East Rutherford, Bergen County

The New Jersey Department of Environmental Protection is in receipt of ENSR's letter regarding electronic data format requirements. Since the Remedial Action Workplan for the Uplands Portion of the UOP Superfund Site was approved on November 6, 1996 and work began within four months of this approval, any sampling conducted prior to January 18, 1998 would be exempt from electronic data submittals. However, any sampling conducted after January 18, 1998 would require electronic data submittals.

Please feel free to contact me at (609) 633-7261 if you have any questions.

Sincerely,

Gwen Barunas

Gwen Barunas, P.E.
Case Manager
Bureau of Federal Case Management

NJDEP LETTER 2

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Mr. R.W. Galloway
Project Engineer
AlliedSignal Inc.
P.O. Box 2105
Morristown, NJ 07962-2105

AUG 14 1997

Dear Mr. Galloway:

Re: Universal Oil Products Superfund Site
East Rutherford, Bergen County

As we discussed, enclosed please find a copy of the surface water criteria.

If you have any questions, please feel free to contact me at (609)633-7261.

Sincerely,

Gwen Barunas

Gwen Barunas, P.E.
Case Manager
Bureau of Federal Case Management

GWEN

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Office of Environmental Planning

CN418, Trenton, NJ 08625

Robert C. Shinn, Jr.
Commissioner

JAN - 4 1997

TO: Distribution List

FROM: Shing-Fu Hsueh, Ph.D., P.E., P.P., Chief
Standards, Assessment & Modelling Unit
Office of Environmental Planning

SUBJECT: Surface Water Quality Standards
Criteria Currently Applicable to New Jersey Surface Waters

DATE: January 30, 1997

Attached is a table, Surface Water Quality Criteria Applicable To New Jersey, which lists criteria currently applicable to New Jersey surface waters for toxic pollutants. The criteria reflect the more stringent of the New Jersey adopted criteria (25 N.J.R. 5569, December 6, 1993 and 28 N.J.R. 3782, August 5, 1996) and the USEPA adopted criteria (Fed. Reg. Vol. 57, No. 246-60848, December 22, 1992, Fed. Reg. Vol. 60, No. 86-22228, May 4, 1995, and Fed. Reg. Vol. 60, No. 164-44120, August 24, 1995). The Office of Environmental Planning is providing this revised table of applicable criteria to reflect the adoption of aquatic copper criteria for New York/New Jersey Harbor Complex. Revised tables will be issued as needed to reflect future criteria adoptions either by the USEPA or the DEP.

For criteria for pollutants other than toxics please refer to N.J.A.C. 7:9B or you may contact the Surface Water Quality Standards program within the Standards, Assessment and Modelling Unit, Office of Environmental Planning, at the number referenced below.

If you have any other questions regarding SWQS or need copies of SWQS, please call (609) 633-7020.

Attachment

SURFACE WATER QUALITY CRITERIA APPLICABLE TO NEW JERSEY

(µg/L unless otherwise noted)

Toxic Substance	Freshwater Criteria			Saltwater Criteria		
	Aquatic		Human Health	Aquatic		Human Health
	Acute	Chronic		Acute	Chronic	
Acrolein			320(h)NJ			780(h)NJ
Acrylonitrile			0.059(hc)EPA			0.66(hc)EPA
Aldrin	3.0NJ		0.00013(hc)EPA	1.3NJ		0.00014(hc)EPA
Ammonia, un-ionized (24-hr. average)		20♦NJ 50♦♦NJ			0.1 (LC_{50} or EC_{50})NJ	
Anthracene			9,570(h)NJ			108,000(h)NJ
Antimony			12.2(h)♣NJ			4,300(h)♣NJ
Arsenic	360(d)OEPA	190(d)OEPA	0.0170(hc)♣NJ	69(d)OEPA	36(d)OEPA	0.136(hc)♣NJ
Asbestos			7 million fibers/L(h)NJ			
Barium			2,000(h)♣NJ			
Benz(a)anthracene			0.0028(hc)NJ			0.031(hc)NJ
Benzene			0.150(hc)NJ			71(hc)NJ
Benzidine			0.000118(hc)NJ			0.000535(hc)NJ
3,4-Benzofluoranthene (Benzo(b)fluoranthene)			0.0028(hc)NJ			0.031(hc)NJ
Benzo(a)pyrene (BaP)			0.0028(hc)NJ			0.031(hc)NJ
Benzo(k)fluoranthene			0.0028(hc)NJ			0.031(hc)NJ
alpha-BHC (alpha-HCH)			0.0039(hc)EPA			0.013(hc)EPA
beta-BHC (beta-HCH)			0.137(hc)NJ			0.460(hc)NJ
gamma-BHC (gamma-HCH/Lindane)	2.0NJ	0.080NJ	0.19(hc)EPA	0.16NJ		0.63(hc)EPA
Bis(2-chloroethyl) ether			0.031(hc)EPA			1.4(hc)NJ
Bis(2-chloroisopropyl) ether			1,250(h)NJ			170,000(h)NJ
Bis(2-ethylhexyl) phthalate			1.76(hc)NJ			5.92(hc)NJ
Bromodichloromethane (Dichlorobromomethane)			0.266(hc)NJ			22(hc)NJ
Bromoform			4.3(hc)EPA			360(hc)NJ
Butyl benzyl phthalate			239(h)NJ			416(h)NJ
Cadmium	3.7(a)OEPA	1.0(a)OEPA	10(h)♣NJ	42(d)OEPA	9.3(d)OEPA	
Carbon tetrachloride			0.25(hc)EPA			4.4(hc)EPA
Chlordane	2.4NJ	0.0043NJ	0.000277(hc)NJ	0.09NJ	0.0040NJ	0.000283(hc)NJ
Chloride	860,000NJ	230,000NJ	250,000(ol)NJ			
Chlorine Produced Oxidants	19NJ	11NJ		13NJ	7.5NJ	

SURFACE WATER QUALITY CRITERIA APPLICABLE TO NEW JERSEY

(µg/L unless otherwise noted)

Toxic Substance	Freshwater Criteria: Aquatic Acute	Freshwater Criteria: Aquatic Chronic	Freshwater Criteria: Human Health	Saltwater Criteria: Aquatic Acute	Saltwater Criteria: Aquatic Chronic	Saltwater Criteria: Human Health
Chlorobenzene			22.0(h)NJ			21,000(h)NJ
Chloroform			5.67(hc)NJ			470(hc)NJ
2-Chlorophenol			122(h)NJ			402(h)NJ
Chlorpyrifos	0.083NJ	0.041NJ		0.011NJ	0.0056NJ	
Chromium			160(h)+NJ			3,230(h)+NJ
Chromium+3	550(a)OEPA	180(a)OEPA				
Chromium+6	15(d)OEPA	10(d)OEPA		1,100(d)OEPA	50(d)OEPA	
Chrysene			0.0028(hc)NJ			0.031(hc)NJ
Copper	17(a)OEPA	11(a)OEPA		2.4(d)OEPA 7.9ONJ	2.4(d)OEPA 5.6ONJ	
Cyanide	22NJ	5.2NJ	700(h)EPA	1.0NJ	1.0NJ	220,000(h)NJ
4,4'-DDD (p,p'-TDE)			0.00083(hc)EPA			0.000837(hc)NJ
4,4'-DDE			0.000588(hc)NJ			0.00059(hc)EPA
4,4'-DDT	1.1NJ	0.0010NJ	0.000588(hc)NJ	0.13NJ	0.0010NJ	0.00059(hc)EPA
Demeton		0.1NJ			0.1NJ	
Dibenz(a,h)anthracene			0.0028(hc)NJ			0.031(hc)NJ
Dibromochloromethane (Chlorodibromomethane)			72.6(h)NJ 4.1(hc)EPA			340(hc)EPA
Di-n-butyl phthalate			2,700(h)EPA			12,000(h)EPA
1,2-Dichlorobenzene			2,520(h)NJ			16,500(h)NJ
1,3-Dichlorobenzene			400(h)EPA			2,600(h)EPA
1,4-Dichlorobenzene			343(h)NJ			2,600(h)EPA
3,3'-Dichlorobenzidine			0.0386(hc)NJ			0.0767(hc)NJ
1,2-Dichloroethane			0.291(hc)NJ			99(hc)NJ
1,1-Dichloroethylene			4.81(h)NJ 0.57(hc)EPA			32(hc)EPA
trans-1,2-Dichloroethylene			592(h)NJ			
2,4-Dichlorophenol			92.7(h)NJ			790(h)EPA
1,3-Dichloropropene (cis and trans)			0.193(hc)NJ 10(h)EPA			1,700(h)NJ
Dieldrin	2.5NJ	0.0019NJ	0.000135(hc)NJ	0.71NJ	0.0019NJ	0.00014(hc)EPA
Diethyl phthalate			21,200(h)NJ			111,000(h)NJ
Dimethyl phthalate			313,000(h)NJ			2,900,000(h)NJ

SURFACE WATER QUALITY CRITERIA APPLICABLE TO NEW JERSEY

(µg/L unless otherwise noted)

Toxic Substance	Freshwater Criteria			Saltwater Criteria		
	Aquatic		Human Health	Aquatic		Human Health
	Acute	Chronic		Acute	Chronic	
4,6-Dinitro-o-cresol			13.4(h)NJ			765(h)NJ
2,4-Dinitrophenol			69.7(h)NJ			14,000(h)NJ
2,4-Dinitrotoluene			0.11(hc)NJ			9.1(hc)NJ
1,2-Diphenylhydrazine			0.040(hc)EPA			0.54(hc)EPA
Endosulfans (alpha and beta)	0.22NJ	0.056NJ	0.932(h)NJ	0.034NJ	0.0087NJ	1.99(h)NJ
alpha-Endosulfan			0.93(h)EPA			
beta-Endosulfan			0.93(h)EPA			
Endosulfan sulfate			0.93(h)NJ			2.0(h)NJ
Endrin	0.18NJ	0.0023NJ	0.029(h)NJ	0.037NJ	0.0023NJ	0.676(h)NJ
Endrin aldehyde			0.76(h)NJ			0.81(h)NJ
Ethylbenzene			3,030(h)NJ			27,900(h)NJ
Fluoranthene			300(h)EPA			370(h)NJ
Fluorene			1,300(h)EPA			14,000(h)NJ
Guthion		0.01NJ			0.01NJ	
Heptachlor	0.52NJ	0.0038NJ	0.000208(hc)NJ	0.053NJ	0.0036NJ	0.00021(hc)NJ
Heptachlor epoxide	0.52NJ	0.0038NJ	0.00010(hc)EPA	0.053NJ	0.0036NJ	0.000106(hc)NJ
Hexachlorobenzene			0.000748(hc)NJ			0.00077(hc)EPA
Hexachlorobutadiene			6.94(h)NJ 4.4(hc)EPA			500(hc)EPA
Hexachlorocyclopentadiene			240(h)EPA			17,000(h)NJ
Hexachloroethane			2.73(h)NJ 19(hc)EPA			12.4(h)NJ 89(hc)EPA
Indeno(1,2,3-cd)pyrene			0.0028(hc)NJ			0.031(hc)NJ
Isophorone			552(h)NJ 84(hc)EPA			6,000(hc)EPA
Lead	65(a)OEPA	2.5(a)OEPA	5.0(h)♣NJ	210(d)OEPA	8.1(d)OEPA	
Malathion		0.1NJ			0.1NJ	
Manganese						100(h)♣NJ
Mercury	2.1(d)OEPA	0.012(c)♣EPA	0.14(h)♣EPA	1.8(d)OEPA	0.025(c)♣EPA	0.146(h)♣NJ
Methoxychlor		0.03NJ	40(h)NJ		0.03NJ	
Methyl bromide (bromomethane)			48(h)EPA			4,000(h)NJ
Methylene chloride			2.49(hc)NJ			1,600(hc)NJ

SURFACE WATER QUALITY CRITERIA APPLICABLE TO NEW JERSEY

(µg/L unless otherwise noted)

Toxic Substance	Freshwater Criteria			Saltwater Criteria		
	Aquatic		Human Health	Aquatic		Human Health
	Acute	Chronic		Acute	Chronic	
Mirex		0.001$_{NJ}$			0.001$_{NJ}$	
Nickel	1,400(a)$_{O_{EPA}}$	160(a)$_{O_{EPA}}$	516(h)$_{\triangle NJ}$	74(d)$_{O_{EPA}}$	8.2(c)$_{O_{EPA}}$	3,900(h)$_{\triangle NJ}$
Nitrate (as N)			10,000(h)$_{NJ}$			
Nitrobenzene			16.0(h)$_{NJ}$			1,900(h)$_{NJ}$
N-Nitrosodi-n-butylamine			0.00641(hc)$_{NJ}$			
N-Nitrosodiethylamine			0.000233(hc)$_{NJ}$			
N-Nitrosodimethylamine			0.000686(hc)$_{NJ}$			8.1(hc)$_{NJ}$
N-Nitrosodiphenylamine			4.95(hc)$_{NJ}$			16(hc)$_{EPA}$
N-Nitrosopyrrolidine			0.0167(hc)$_{NJ}$			
Parathion	0.065$_{NJ}$	0.013$_{NJ}$				
Pentachlorobenzene			3.67(h)$_{NJ}$			4.21(h)$_{NJ}$
Pentachlorophenol	20(b)$_{NJ}$	13(b)$_{NJ}$	0.28(hc)$_{EPA}$	13$_{NJ}$	7.9$_{NJ}$	8.2(hc)$_{NJ}$
Phenol			20,900(h)$_{NJ}$			4,600,000(h)$_{NJ}$
Phosphorous (yellow)					0.1$_{NJ}$	
Polychlorinated biphenyls (PCBs)		0.014$_{NJ}$	0.000244(hc)$_{NJ}$		0.030$_{NJ}$	0.000247(hc)$_{NJ}$
PCB-1242			0.000044(hc)$_{EPA}$			0.000045(hc)$_{EPA}$
PCB-1254			0.000044(hc)$_{EPA}$			0.000045(hc)$_{EPA}$
PCB-1221			0.000044(hc)$_{EPA}$			0.000045(hc)$_{EPA}$
PCB-1232			0.000044(hc)$_{EPA}$			0.000045(hc)$_{EPA}$
PCB-1248			0.000044(hc)$_{EPA}$			0.000045(hc)$_{EPA}$
PCB-1260			0.000044(hc)$_{EPA}$			0.000045(hc)$_{EPA}$
PCB-1016			0.000044(hc)$_{EPA}$			0.000045(hc)$_{EPA}$
Pyrene			797(h)$_{NJ}$			8,970(h)$_{NJ}$
Selenium	20$_{\triangle EPA}$	5.0$_{\triangle EPA}$	10(h)$_{\triangle NJ}$	290(d)$_{O_{EPA}}$	71(d)$_{O_{EPA}}$	
Silver	3.4(a)$_{O_{EPA}}$		164(h)$_{\triangle NJ}$	1.9(d)$_{O_{EPA}}$		
Sulfide-hydrogen sulfide (undissociated)		2$_{NJ}$			2$_{NJ}$	
1,2,4,5-Tetrachlorobenzene			2.56(h)$_{NJ}$			3.25(h)$_{NJ}$
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)			0.000000013(hc)$_{NJ}$			0.000000014(hc)$_{NJ}$
1,1,2,2-Tetrachloroethane			1.7(hc)$_{EPA}$			110(hc)$_{EPA}$
Tetrachloroethylene			0.388(hc)$_{NJ}$			4.29(hc)$_{NJ}$

SURFACE WATER QUALITY CRITERIA APPLICABLE TO NEW JERSEY

(µg/L unless otherwise noted)

Toxic Substance	Freshwater Criteria: Aquatic Acute	Freshwater Criteria: Aquatic Chronic	Freshwater Criteria: Human Health	Saltwater Criteria: Aquatic Acute	Saltwater Criteria: Aquatic Chronic	Saltwater Criteria: Human Health
Thallium			1.70(h)$_{4NJ}$			6.22(h)$_{4NJ}$
Toluene			6,800(h)$_{EPA}$			200,000(h)$_{NJ}$
Toxaphene	0.73$_{NJ}$	0.0002$_{NJ}$	0.000730(hc)$_{NJ}$	0.21$_{NJ}$	0.0002$_{NJ}$	0.000747(hc)$_{NJ}$
1,2,4-Trichlorobenzene			30.6(h)$_{NJ}$			113(h)$_{NJ}$
1,1,1-Trichloroethane			127(h)$_{NJ}$			
1,1,2-Trichloroethane			13.5(h)$_{NJ}$ 6.0(hc)$_{EPA}$			420(hc)$_{EPA}$
Trichloroethylene			1.09(hc)$_{NJ}$			81(hc)$_{NJ}$
2,4,5-Trichlorophenol			2,590(h)$_{NJ}$			9,790(h)$_{NJ}$
2,4,6-Trichlorophenol			2.1(hc)$_{EPA}$			6.5(hc)$_{EPA}$
Vinyl chloride			0.0830(hc)$_{NJ}$			525(hc)$_{NJ}$
Zinc	110(a)$_{O\,EPA}$	100(a)$_{O\,EPA}$		90(d)$_{O\,EPA}$	81(d)$_{O\,EPA}$	

a Criteria for these metals are expressed by equations which follow. Criteria in the table are at total hardness of 100 mg/L of $CaCO_3$. Criteria can be calculated for any hardness using the following equations. Criteria listed above are multiplied by appropriate conversion factors (CF) and by the default water effect ratio (WER) of 1.0.

$$\text{Acute criterion} = \text{WER} \times e^{(m_A\{\ln(\text{hardness})\}+b_A)} \times \text{acute CF}$$

$$\text{Chronic criterion} = \text{WER} \times e^{(m_C\{\ln(\text{hardness})\}+b_C)} \times \text{chronic CF}$$

Factors for use in the formulae are:

	m_A	b_A	m_C	b_C	Acute CF	Chronic CF
Cadmium	1.128	-3.828	0.7852	-3.490	0.944@	0.909@
Copper	0.9422	-1.464	0.8545	-1.465	0.960	0.960
Chromium^{+3}	0.8190	3.688	0.8190	1.561	0.316	0.860
Lead	1.273	-1.460	1.273	-4.705	0.791@	0.791@
Nickel	0.8460	3.3612	0.8460	1.1645	0.998	0.997
Silver	1.72	-6.52	-	-	0.85	-
Zinc	0.8473	0.8604	0.8473	0.7614	0.978	0.986

@ The freshwater CF for cadmium and lead are hardness dependent. Conversion factors listed above for cadmium and lead are at total hardness of 100 mg/L of $CaCO_3$. Conversion factors for cadmium and lead can be calculated for any hardness using the following equations

Cadmium

Acute: CF = 1.1366-[(ln hardness)(0.0418)]

Chronic: CF = 1.1016-[(ln hardness)(0.0418)]

Lead

Acute & Chronic: CF = 1.4620-[(ln hardness)(0.1457)]

b Criteria are expressed by the equations which follow. Criteria in the table are at pH of 7.8.

Acute criterion = $e^{(1.005(pH)-4.830)}$

Chronic criterion = $e^{(1.005(pH)-5.290)}$

c If the chronic criterion for total mercury exceeds 0.012 µg/L, the edible portion of aquatic species of concern must be analyzed to determine whether additional actions are required.

d Criteria for these metals are expressed as a function of the WER

h Noncarcinogenic effect-based human health criteria

hc Human carcinogenic effect-based human health criteria

ol Organoleptic effect-based criteria expressed as maximum concentrations

• Criteria for FW2-TP & FW2-TM waters

•• Criteria for FW2-NT waters

o Criteria expressed as dissolved

♣ Criteria expressed as total recoverable

♥ Criterion applicable to waters which include Newark Bay, the New Jersey portions of Raritan Bay, Upper New York Bay, Arthur Kill, Kill Van Kull, saline portions of the Passaic, Hackensack, and Hudson Rivers and saline portions of tributaries to all of these waters.

NJDEP LETTER 3

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO.

Mr. Mark Kamilow
AlliedSignal
Engineered Materials Sector
P.O. Box 1139
Morristown, NJ 07962-1139

Dear Mr. Kamilow:

Re: Universal Oil Products Superfund Site (UOP)
East Rutherford, Bergen County

The enclosed standards are provided for use as effluent limits based on the Department's determination that the discharge is to a Class III-B aquifer hydraulically connected to a saline surface water body. The basis for this determination, and use of these effluent limits, is as follows:

1. The site is built adjacent to and within the Hackensack Meadowlands.

2. The depth to water is usually between 2 and 3 feet.

3. A significant portion of the site is covered with phragmites, a plant indigenous to wetlands.

4. A significant portion of the site contains tidally influenced salt-water streams.

5. The aquifer that is being remediated and discharged to is a water table aquifer.

6. The aquifer in question is approximately 6 feet thick and is comprised of backfill overlying organic-rich meadow mat.

7. Underlying the meadow mat is a low permeability varved glacial lake clay that acts as a confining layer to the underlying sands and gravel.

8. The aquifer in question appears to contain elevated levels of ammonia, TDS, sodium, iron, manganese, and hardness. Although chloride data is not available, chloride levels are likely to be elevated due to the close proximity of the monitor wells to saline waters and the elevated sodium levels found in wells.

9. The receptor to the ground water is a tidally influenced creek.

In accordance with the New Jersey Ground Water Quality Standards (GWQS) N.J.A.C. 7:9-6.5(f)3, "Class III-B ground water consists of all geologic formations or units...where the natural quality of ground water is otherwise not suitable for conversion to potable uses." The high concentrations of ammonia, TDS, sodium, iron, manganese, and hardness in the ground water make the ground water prohibitively difficult to treat to potable standards using conventional treatment systems. Accordingly, it is the position of the Department that the subject aquifer meets the criteria to be considered Class-IIIB. As such, the anti-degradation limits at this site are equal to the criteria established pursuant to the decision process in N.J.A.C. 7:9-6.7(f) of the GWQS. Based on this process, the nature of the aquifer (largely man made and adequately cut off from any potable aquifers), the location of the site (adjacent to and within the meadowlands), the poor natural water quality in the aquifer, and the ultimate receptor of the discharged water (Berrys Creek via tidally influenced Ackerman's Creek), discharge limits protective of the nearby surface waters (receptor) are appropriate.

It is recommended that the values in the enclosed list under the "daily maximum" column be used as the discharge to ground water effluent limits. Based on current policy and available information, these values are appropriate for protection of surface water quality and are readily achievable based on available treatment technology.

Please feel free to contact me at (609) 633-1455 if you have any questions.

Sincerely,

Gwen Barunas

Gwen Barunas, Case Manager
Bureau of Federal Case Management

c: Rich Puvogel, USEPA
Greg Giles, BGWPA
Steve MacGregor, BEERA

PARAMETER	EFFLUENT	
	monthly average	daily maximum
Bis (2-Chloroethyl) Ether		10
Bis (2-Chloroisopropyl) Ether	301	757
Bis (2-Ethylhexyl) Phthalate		30
Butyl Benzyl Phthalate		24
Chrysene		20
Dibenzo (a,h) Anthracene		20
1,2-Dichlorobenzene	77	163
1,3-Dichlorobenzene	31	44
1,4-Dichlorobenzene	15	28
3,3'-Dichlorobenzidine		60
Diethyl Phthalate	81	203
Dimethyl Phthalate	19	47
Di-N-Butyl Phthalate	27	57
2,4 Dinitrotoluene		10
2,6-Dinitrotoluene	255	641
Fluoranthene	25	68
Fluorene	22	59
Hexachlorobenzene		10
Hexachlorobutadiene	20	49
Hexachlorocyclopentadiene		1800
Hexachloroethane	12.4	24.8
Indeno (1,2,3-cd) Pyrene		20
Isophorone		20
Naphthalene	22	59
Nitrobenzene	27	68
N-Nitrosodimethylamine		20
N-Nitrosodiphenylamine		20
N-Nitrosopyrrolidine		
Pentachlorobenzene		10
Phenanthrene		10
Pyrene	25	67
1,2,4,5-Tetrachlorobenzene		10
1,2,4-Trichlorobenzene	68	140
METALS (ppb)		
Arsenic	50	100
Lead	50	100
PCBs (ppb)		
PCBs-1242, 1254, 1221, 1232, 1248, 1260, 1016		0.5

WELL ABANDONMENT REPORTS

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 266496 of well sealed

DATE WELL SEALED 4-16-96

PROPERTY OWNER E.M. Senior Holdings

ADDRESS 101 Columbia Road, Morristown NJ

WELL LOCATION RT17 @ Paterson Plank Rd, E. Rutherford Bergen
Street & No., Township, County

L.T. — Well No.
105.01/104 8/2 — Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: monitoring

REASON FOR ABANDONMENT: unknown

WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

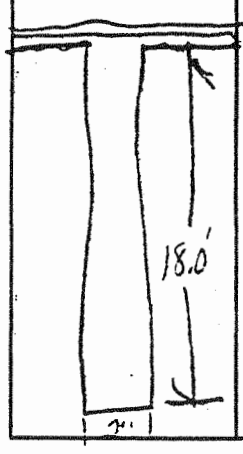
TOTAL DEPTH OF WELL: 18.0
DIAMETER: 2"
CASING LENGTH: 5.0
SCREEN LENGTH: 15.0
NUMBER OF CASINGS: 1

MATERIAL USED TO SEAL WELL:

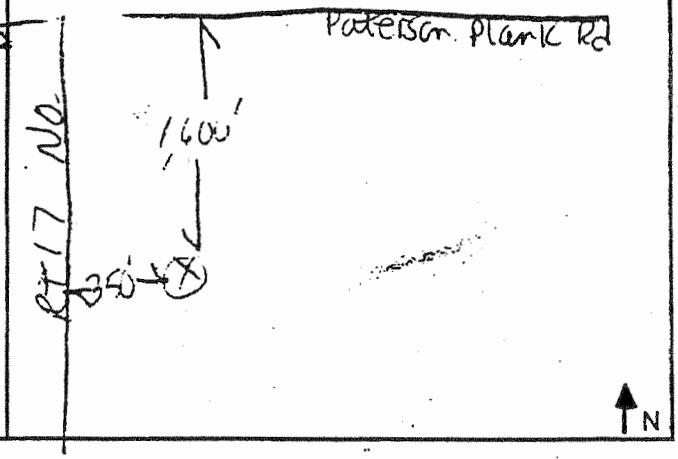
10 Gallons of Water
94 Lbs. of Cement
8 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ___ Consolidated ✓ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☐ YES ☑ NO CASING MATERIAL: Black steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: —

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Myerchin — Name of NJ Certified Well Sealer Performing Work (Print or Type)

P.O. Box 1 Netcong NJ 07857 — Address

8/19/96 — Mailing Date

Douglas Myerchin — Signature of NJ Certified Well Sealer Performing Work

M 1270 — License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 266497 of well sealed

DATE WELL SEALED 4-15-96

PROPERTY OWNER E.M. Sector Holdings

ADDRESS 101 Columbia Rd, Morristown NJ

WELL LOCATION Rt 17 No @ Paterson Plank Rd E. Rutherford Bergen
Street & No., Township, County

7I — Well No.

105.01/104 8/2 — Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: UNKNOWN

WAS A NEW WELL DRILLED? ☐ YES ☐ NO PERMIT # OF NEW WELL: _____

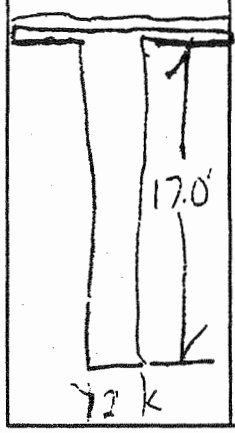
TOTAL DEPTH OF WELL 17.0
DIAMETER 2"
CASING LENGTH 4
SCREEN LENGTH 15
NUMBER OF CASINGS 1

MATERIAL USED TO SEAL WELL:

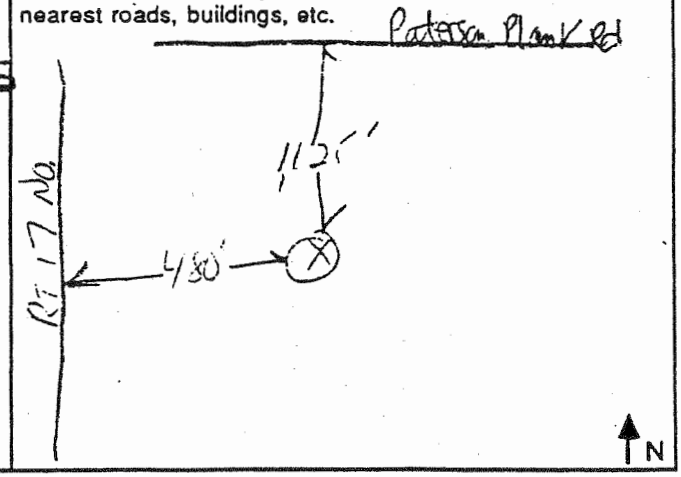
10 Gallons of Water
2 Lbs. of Cement
8 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ☐ Consolidated ☑ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☑ YES ☐ NO CASING MATERIAL: Black steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: —

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Murchie — Name of NJ Certified Well Sealer Performing Work (Print or Type)

PO Box Mt Tabor NJ 07857 — Address

8/19/96 — Mailing Date

Douglas Murchie — Signature of NJ Certified Well Sealer Performing Work

m 1270 — License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 266527
of well sealed

DATE WELL SEALED 4-15-96

PROPERTY OWNER E. M. SCITOR HOLDINGS

ADDRESS 101 COLUMBIA Rd MORRISTOWN NJ

WELL LOCATION RT 17 NO & Paterson Plank Rd E. Rutherford Bergen
Street & No., Township, County

75 — Well No.
105.01/104 8/92 — Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: UNKNOWN

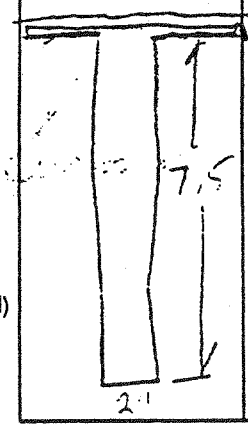
WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

TOTAL DEPTH OF WELL 7.5
DIAMETER 2"
CASING LENGTH 1.5
SCREEN LENGTH 3.0
NUMBER OF CASINGS 1

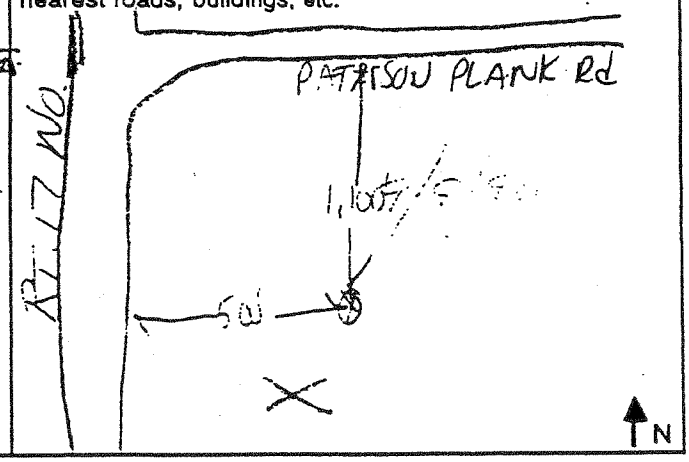
MATERIAL USED TO SEAL WELL:
10 Gallons of Water
9 Lbs. of Cement
8 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ___ Consolidated
✓ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☐ YES ☑ NO CASING MATERIAL: Black Steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: —

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Marchin — Name of NJ Certified Well Sealer Performing Work (Print or Type)

PO Box 8 Netcong NJ 07857 — Address

8/19/96 — Mailing Date

Douglas Marchin — Signature of NJ Certified Well Sealer Performing Work

M 1270 — License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 266503 of well sealed

DATE WELL SEALED 4-16-96

PROPERTY OWNER E.M. SPECTOR Holdings

ADDRESS 101 COLUMBIA Rd., MORRISTOWN, NJ

WELL LOCATION RT 17 NO @ RT 120, E Rutherford Bergen
Street & No., Township, County

7D — Well No.
105.01/104 8/2 — Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: UNKNOWN

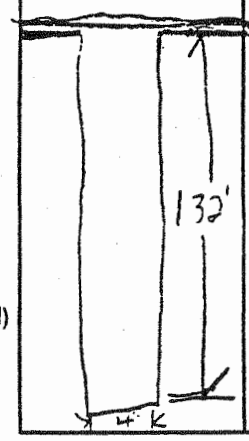
WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

TOTAL DEPTH OF WELL 132'
DIAMETER 4"
CASING LENGTH 114.0
SCREEN LENGTH 20.0
NUMBER OF CASINGS 1

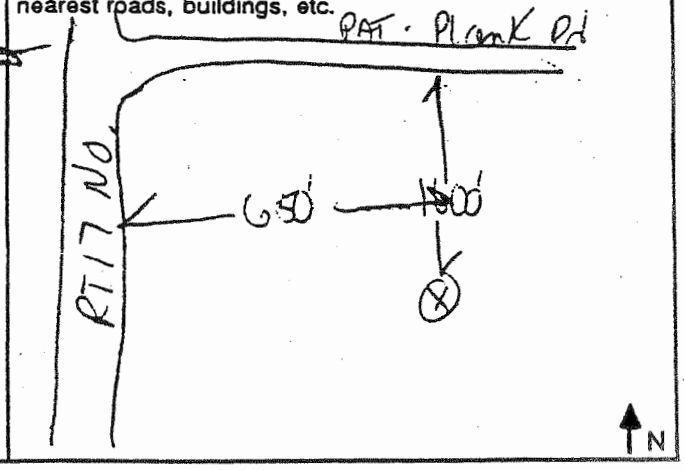
MATERIAL USED TO SEAL WELL:
10 Gallons of Water
94 Lbs. of Cement
8 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ☐ Consolidated ☑ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☑ YES ☐ NO CASING MATERIAL: 4" Black Steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: —

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Martin — Name of NJ Certified Well Sealer Performing Work (Print or Type)

P.O. Box 3 Netcong NJ 07857 — Address

8/19/96 — Mailing Date

Douglas Martin — Signature of NJ Certified Well Sealer Performing Work

M 1270 — License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 266498
of well sealed

DATE WELL SEALED 4-17-96

PROPERTY OWNER Em Sector Holdings

ADDRESS 101 Columbia Rd, Morristown, NJ

WELL LOCATION Rt 17 No. @ Rt. 120 E. Rutherford, Bergen
Street & No., Township, County

RT. 105.01/104 8/42
Well No. Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: UNKNOWN

WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

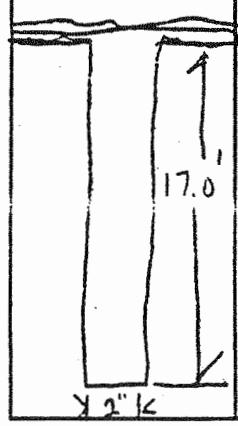
TOTAL DEPTH OF WELL 17.0
DIAMETER 2"
CASING LENGTH 4
SCREEN LENGTH 15
NUMBER OF CASINGS 1

MATERIAL USED TO SEAL WELL:

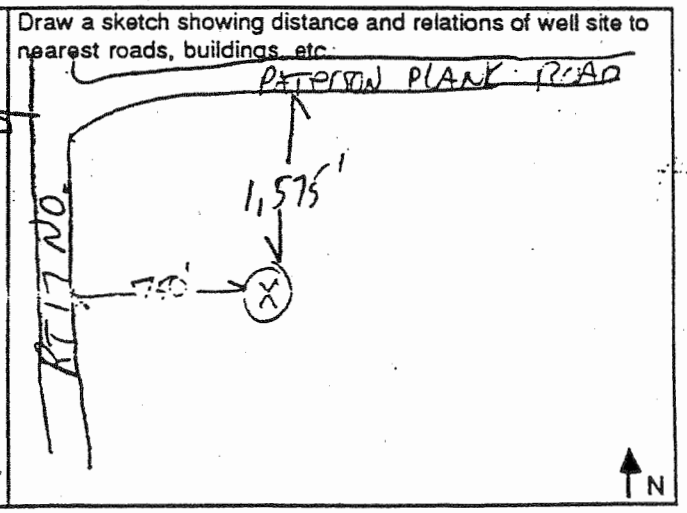
10 Gallons of Water
3 Lbs. of Cement
5 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ✓ Consolidated
✓ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☑ YES ☐ NO CASING MATERIAL: Black Steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: —

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Myrchin
Name of NJ Certified Well Sealer Performing Work (Print or Type)

PO Box 8 Netcong NJ 07857
Address

8/19/96
Mailing Date

Douglas Myrchin
Signature of NJ Certified Well Sealer Performing Work

M 1270
License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 26-6499
of well sealed

DATE WELL SEALED 6-21-96.

PROPERTY OWNER E.M. SECTOR HOLDINGS

ADDRESS 101 Columbia Road, MORRISTOWN, NJ

WELL LOCATION RT. 17 No. @ RT. 120, E. RUTHERFORD, Bergen
Street & No., Township, County

9I — Well No.
5 105.02 — Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: UNKNOWN

WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

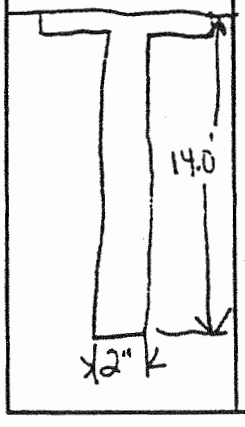
TOTAL DEPTH OF WELL 14.0
DIAMETER 2"
CASING LENGTH UNKNOWN
SCREEN LENGTH UNKNOWN
NUMBER OF CASINGS UNKNOWN

MATERIAL USED TO SEAL WELL:

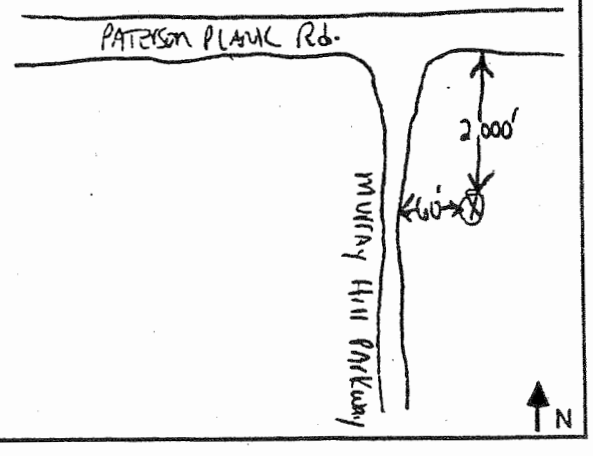
10 Gallons of Water
44 Lbs. of Cement
8 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ☐ Consolidated ☑ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☑ YES ☐ NO CASING MATERIAL: 2" STEEL

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☐ NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

MARTIN A. Pepper
Name of NJ Certified Well Sealer Performing Work (Print or Type)

P.O. BOX 5, NETCONG NJ. 07857
Address

8/28/96
Mailing Date

Martin A. Pepper
Signature of NJ Certified Well Sealer Performing Work

T1405
License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element. — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 266300 of well sealed

DATE WELL SEALED 4-15-96

PROPERTY OWNER E.M. Sertor Holdings

ADDRESS 101 Columbia Rd Morristown, NJ

WELL LOCATION Rt 17 No @ Rt. 120 Fairlawn Bord. NJ. Bergen
Street & No., Township, County

10 — Well No.

10 & 11 Block 8121 — Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: Unknown

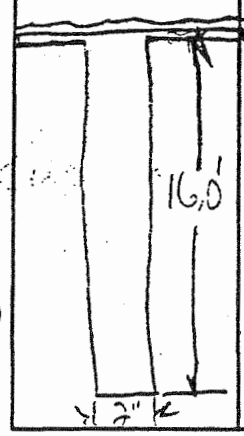
WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

TOTAL DEPTH OF WELL 16.0
DIAMETER 2"
CASING LENGTH 3
SCREEN LENGTH 15
NUMBER OF CASINGS 1

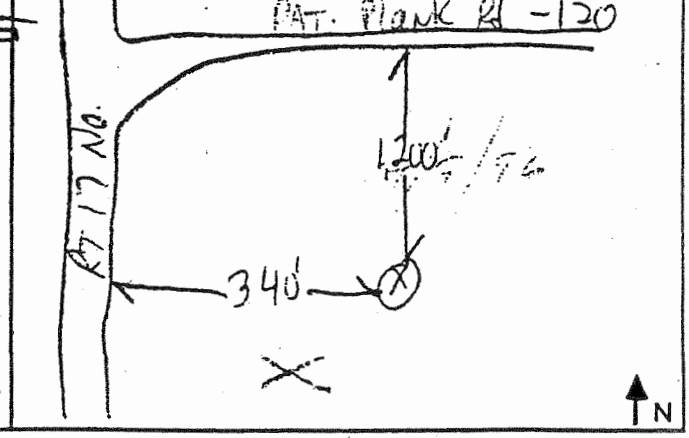
MATERIAL USED TO SEAL WELL:
10 Gallons of Water
94 Lbs. of Cement
8 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ___ Consolidated ✓ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☐ YES ☑ NO CASING MATERIAL: Black Steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: —

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Merchin — Name of NJ Certified Well Sealer Performing Work (Print or Type)

P.O. Box 8, Netcong, NJ 07857 — Address

8/19/96 — Mailing Date

Douglas Merchin — Signature of NJ Certified Well Sealer Performing Work

M 1270 — License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 267082-1
of well sealed

DATE WELL SEALED 4-16-96

PROPERTY OWNER E.M. Sector Holdings

ADDRESS 101 Columbia Rd, Morristown, NJ.

WELL LOCATION RT 17 No @ RT 120, E. Rutherford Bergen
Street & No., Township, County

17I — Well No.
105.01/104 8/2 — Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: monitoring

REASON FOR ABANDONMENT: UNKNOWN

WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

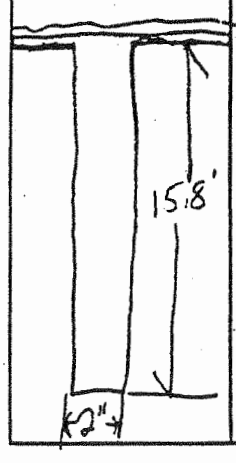
TOTAL DEPTH OF WELL 15.8
DIAMETER 2"
CASING LENGTH 3
SCREEN LENGTH 15
NUMBER OF CASINGS 1

MATERIAL USED TO SEAL WELL:

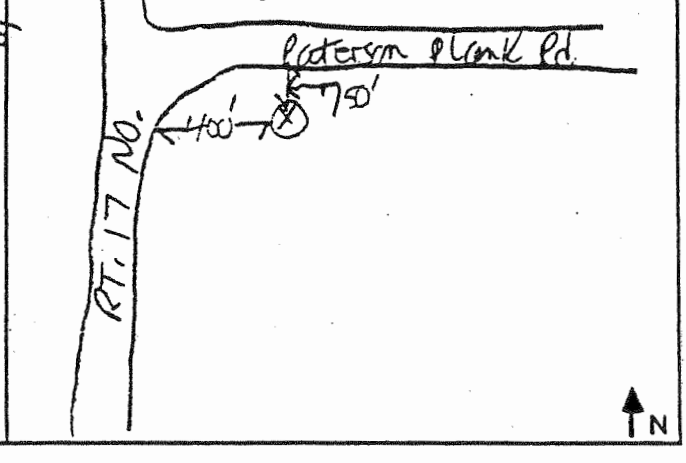
10 Gallons of Water
94 Lbs. of Cement
5 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ☐ Consolidated ☑ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☑ YES ☐ NO CASING MATERIAL: Black Steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: None

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Myerchin — Name of NJ Certified Well Sealer Performing Work (Print or Type)

PO Box 8 Netcong NJ 07857 — Address

8/19/96 — Mailing Date

Douglas Myerchin — Signature of NJ Certified Well Sealer Performing Work

M 1270 — License #

White - Water Allocation Yellow - Owner Pink - Health Dept Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: **Bureau of Water Allocation**
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 26-7083-9
of well sealed

DATE WELL SEALED 4-16-96

PROPERTY OWNER E. M. Sector Holdings

ADDRESS 101 Columbia Rd Morristown NJ

WELL LOCATION Rt 17 No. @ Rt 120, E. Rutherford NJ Bergen
Street & No., Township, County

18 I — Well No.
105.01/104 8/2 — Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: monitoring

REASON FOR ABANDONMENT: unknown

WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

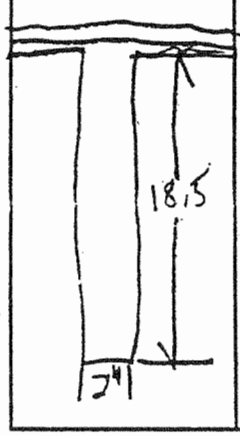
TOTAL DEPTH OF WELL 18.5
DIAMETER 2"
CASING LENGTH 5.5
SCREEN LENGTH 13.0
NUMBER OF CASINGS 1

MATERIAL USED TO SEAL WELL:

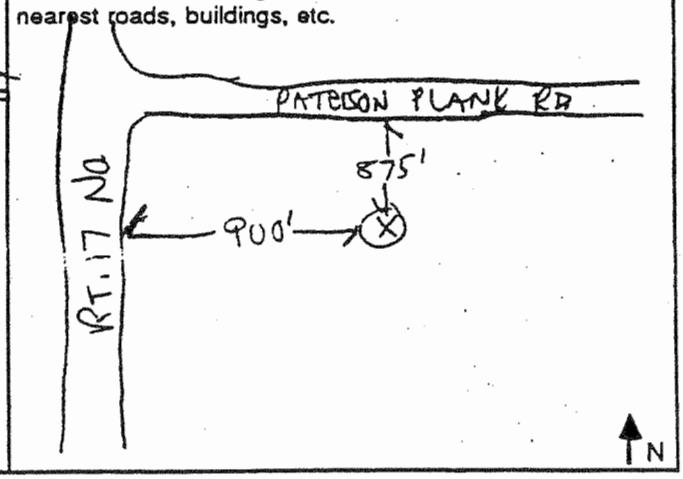
10 Gallons of Water
94 Lbs. of Cement
8 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ___ Consolidated
X Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☑ YES ☐ NO CASING MATERIAL: black steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: None

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Myerchin — Name of NJ Certified Well Sealer Performing Work (Print or Type)

PO Box 8 Netcong NJ 07857 — Address

8/19/96 — Mailing Date

Douglas Myerchin — Signature of NJ Certified Well Sealer Performing Work

M 1270 — License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 267084-7 of well sealed

DATE WELL SEALED 4/15/96

PROPERTY OWNER E.M. Sector Holdings

ADDRESS 101 Columbia Rd Morristown NJ

WELL LOCATION RT 17 NO @ RT. 120 E. Rutherford Bergen
Street & No., Township, County

19 T — Well No.
105.01/104 8/2 — Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: UNKNOWN

WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

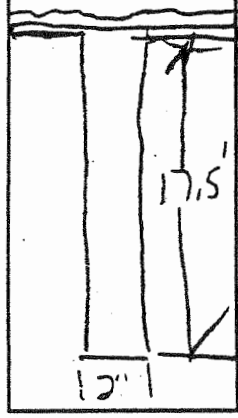
TOTAL DEPTH OF WELL 17.5
DIAMETER 2"
CASING LENGTH 4.5
SCREEN LENGTH 15.0
NUMBER OF CASINGS 1

MATERIAL USED TO SEAL WELL:

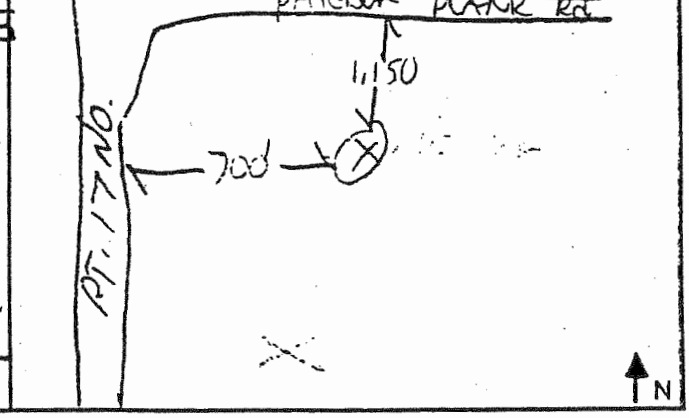
10 Gallons of Water
94 Lbs. of Cement
8 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ☐ Consolidated ☑ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☑ YES ☐ NO CASING MATERIAL: Black Steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: None

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Myerchin — Name of NJ Certified Well Sealer Performing Work (Print or Type)

PO Box 8 Netcong NJ 07857 — Address

8/19/96 — Mailing Date

Douglas Myerchin — Signature of NJ Certified Well Sealer Performing Work

M 1270 — License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-020
5/95

New Jersey Department of Environmental Protection
Water Supply Element — Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
CN 426
Trenton, NJ 08625-0426

WELL PERMIT # 267085-5 of well sealed

DATE WELL SEALED 4-15-96

PROPERTY OWNER E.M. Sector Holdings

ADDRESS 101 Columbia Rd Morristown NJ

WELL LOCATION RT 17 Na @ RT 120 E. Rutherford Bergen
Street & No., Township, County

20T 105.01/104 8/2
Well No. Lot & Block No.

USE OF WELL PRIOR TO ABANDONMENT: MONITORING

REASON FOR ABANDONMENT: UNKNOWN

WAS A NEW WELL DRILLED? ☐ YES ☑ NO PERMIT # OF NEW WELL: _____

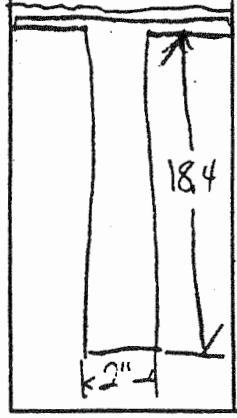
TOTAL DEPTH OF WELL 18.4
DIAMETER 2
CASING LENGTH 5.6
SCREEN LENGTH 15.0
NUMBER OF CASINGS 1

MATERIAL USED TO SEAL WELL:

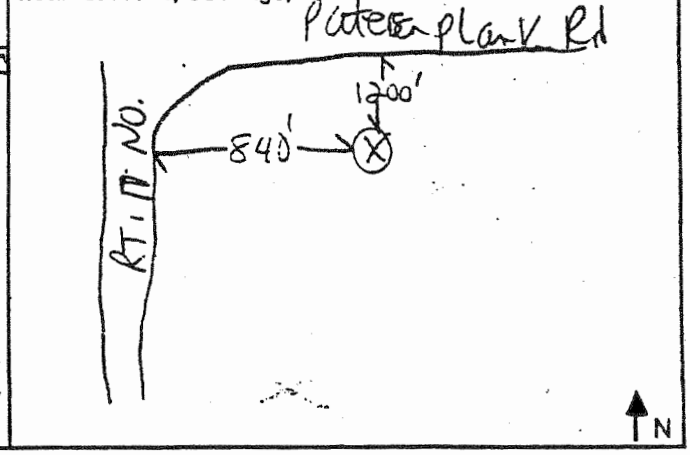
10 Gallons of Water
94 Lbs. of Cement
8 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ☐ Consolidated ☑ Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☐ YES ☑ NO CASING MATERIAL: Black Steel

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☑ NO WHAT WERE THE OBSTRUCTIONS: None

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

Douglas Myerchin
Name of NJ Certified Well Sealer Performing Work (Print or Type)

PO Box 5 Netcong NJ 07857
Address

8/19/96
Mailing Date

Douglas Myerchin
Signature of NJ Certified Well Sealer Performing Work

M 1270
License #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

MONITORING WELL RECORDS

DWR-138 M
1/96

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 — [illegible]
Atlas Sheet Coordinates 28 : 13 : 224

OWNER IDENTIFICATION - Owner ALLIED SIGNAL INC
Address 101 COLUMBIA ROAD
City MORRISTOWN State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 26I-R
County BERGEN Municipality EAST RUTHERFORD Lot No. 2 & 8 Block No. 104&105
Address 17 MURRAY HILL PARKWAY Date well started 12/16/99
TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 12/16/99
Regulatory Program Requiring Well CERCLA Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Handex Tele. #

WELL CONSTRUCTION

Total depth drilled 16.5 ft.

Well finished to 16.5 ft.

Borehole diameter:
Top ____ in.
Bottom 8 in.

Well was finished: ☑ above grade ☐ flush mounted

If finished above grade, casing height (stick up) above land surface 2 ft.

Was steel protective casing installed? ☑ Yes ☐ No

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.) (From land surface)	Diameter (inches)	Type and Material
Inner Casing	+2	-1.5	2	PVC Sch 40
Outer Casing (Not Protective Casing)				
Screen (Note slot size) 010	1.5	16.5	2	PVC Sch 40
Tail Piece				
Gravel Pack	.5	16.5	8	Morie #1
Annular Seal/Grout	0	.5	8	Bent./Portland
Method of Grouting	Pressure			

Static water level after drilling 4 ft.
Water level was measured using Probe
Well was developed for .5 hours at 2 gpm
Method of development Pump + Surge
Was permanent pumping equipment installed? ☐ Yes ☐ No
Pump capacity — gpm
Pump type: —
Drilling Method HSA
Drilling Fluid — Type of Rig Auger
Name of Driller Chris O'Shaughnessy
Health and Safety Plan submitted? ☐ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. Registration No. 1419
Name of Drilling Company HANDEX CORP./DENNIS HAYES

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0 - 16.5 Brown Silty Sand + Clay water at 4'

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Driller's Signature [signature] Date 1/25/99

DWR-138 M
1/96

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 28 — 49501
Atlas Sheet Coordinates 26 : 13 : 224

OWNER IDENTIFICATION - Owner ALLIED SIGNAL INC
Address 101 COLUMBIA ROAD
City MORRISTOWN State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 29 T-R
County BERGEN Municipality EAST RUTHERFORD Lot No. 2 & 3 Block No. 1048A25
Address 17 MURRAY HILL PARKWAY Date well started 12 / 16 / 98
TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 12 / 16 / 98
Regulatory Program Requiring Well CERCLA Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Hardex Tele. #

WELL CONSTRUCTION

Total depth drilled 18 ft.

Well finished to 18 ft.

Borehole diameter:
Top 8 in.
Bottom 8 in.

Well was finished: ☑ above grade ☐ flush mounted

If finished above grade, casing height (stick up) above land surface 2 ft.

Was steel protective casing installed? ☑ Yes ☐ No

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.) (From land surface)	Diameter (inches)	Type and Material
Inner Casing	+2	3	2	PVC Sch 40
Outer Casing (Not Protective Casing)				
Screen (Note slot size) 010	3	18	2	PVC Sch 40
Tail Piece				
Gravel Pack	2	18	8	Morie #1
Annular Seal/Grout	0	2	8	Bent./Portland
Method of Grouting	Pressure			

Static water level after drilling 4 ft.
Water level was measured using Probe
Well was developed for .5 hours at 2 gpm
Method of development Pump & Surge
Was permanent pumping equipment installed? ☐ Yes ☑ No
Pump capacity — gpm
Pump type: —
Drilling Method HSA
Drilling Fluid — Type of Rig Auger
Name of Driller Chris O'Shaughnessy
Health and Safety Plan submitted? ☑ Yes ☐ No
Level of Protection used on site (circle one). None (D) C B A
N.J. Registration No.
Name of Drilling Company HANDEX CORP./DENNIS HAYES

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0-18' Brown Silty Sand & Clay

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Driller's Signature [signature] Date 1/25/99

DWR-138 M
1/96

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 — 49502
Atlas Sheet Coordinates 26 : 13 : 22A

OWNER IDENTIFICATION - Owner ALLIED SIGNAL INC
Address 101 COLUMBIA ROAD
City MORRISTOWN State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-36R
County BERGEN Municipality EAST RUTHERFORD Lot No. 2 & 8 Block No. 104&10
Address MURRAY HILL PARKWAY Date well started 1/07/98
TYPE OF WELL (as per Well Permit Categories) ~~MONITORING~~ Date well completed 1/07/98
Regulatory Program Requiring Well ~~CERCLA~~ Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Handex Tele. # 738-5316-8500

WELL CONSTRUCTION

Total depth drilled 5.5' ft.
Well finished to 5.5' ft.
Borehole diameter: Top 10" in. Bottom 10" in.
Well was finished: [X] above grade [ ] flush mounted
If finished above grade, casing height (stick up) above land surface 2.5' ft.
Was steel protective casing installed? [X] Yes [ ] No

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	+2.5'	0.5'	4"	Sch 40 PVC
Outer Casing (Not Protective Casing)	—			
Screen 010 (Note slot size)	0.5'	5.5'	4"	Sch 40 PVC
Tail Piece	—			
Gravel Pack	0.2'	5.5'	10"	#2 Morie
Annular Seal/Grout	0	0.2'	10"	Portland/Bentonite
Method of Grouting	Pressure			

Static water level after drilling 2' ft.
Water level was measured using Steel Tape
Well was developed for — hours at — gpm
Method of development —
Was permanent pumping equipment installed? [ ] Yes [X] No
Pump capacity — gpm
Pump type: —
Drilling Method 6 1/4" ID HSA
Drilling Fluid None Type of Rig B-59
Name of Driller Steve Kovelesky
Health and Safety Plan submitted? [X] Yes [ ] No
Level of Protection used on site (circle one) None (D) C B A
N.J. Registration No. JD 11609
Name of Drilling Company HANDEX CORP./DENNIS HAYES

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0-1' Fill / Stone
1-5.5' Silty Sand

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Driller's Signature [signature] Date 1/28/98

DWR-138 M
1/96

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 — 49503
Atlas Sheet Coordinates 26 : 13 : 224

OWNER IDENTIFICATION - Owner ALLIED SIGNAL INC.
Address 101 COLUMBIA ROAD
City MORRISTOWN State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-37R
County BERGEN Municipality EAST RUTHERFORD Lot No. 2 & 8 Block No. 104&12
Address MURRAY HILL PARKWAY Date well started 1/07/98
TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 1/07/98
Regulatory Program Requiring Well CERCLA Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Handex Tele. # 732 536-8500

WELL CONSTRUCTION

Total depth drilled 5.35 ft.
Well finished to 5.35 ft.
Borehole diameter: Top 10" in. Bottom 10" in.
Well was finished: [X] above grade [ ] flush mounted
If finished above grade, casing height (stick up) above land surface 2.5' ft.
Was steel protective casing installed? [X] Yes [ ] No

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	+2.5'	0.35	4"	Sch 40 PVC
Outer Casing (Not Protective Casing)	—			
Screen (Note slot size) 010	0.35	5.35	4"	Sch 40 PVC
Tail Piece	—			
Gravel Pack	0.15'	5.35	10"	#2 Morie
Annular Seal/Grout	0	0.15	10"	Bentonite/Portland
Method of Grouting	Pressure			

Static water level after drilling 1.75' ft.
Water level was measured using Steel Tape
Well was developed for — hours at — gpm
Method of development —
Was permanent pumping equipment installed? [ ] Yes [X] No
Pump capacity — gpm
Pump type: —
Drilling Method 6 1/4" ID HSA
Drilling Fluid None Type of Rig B-59
Name of Driller Steve Kovelesky
Health and Safety Plan submitted? [X] Yes [ ] No
Level of Protection used on site (circle one) None (D) C B A
N.J. Registration No. JD116019
Name of Drilling Company HANDEX CORP./DENNIS HAYES

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0-1' Fill
1-5.35 Silty sand

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Driller's Signature [signature] Date 1/28/98

DWR-138 M
1/96

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 — 49504
Atlas Sheet Coordinates 26 : 13 : 224

OWNER IDENTIFICATION - Owner ALLIED SIGNAL INC
Address 101 COLUMBIA ROAD
City MORRISTOWN State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 38B
County BERGEN Municipality EAST RUTHERFORD Lot No. 2 & 8 Block No. 104&10
Address MURRAY HILL PARKWAY Date well started 1/07/98
TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 1/07/98
Regulatory Program Requiring Well CERCLA Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Handex Tele. # 732 536-8500

WELL CONSTRUCTION

Total depth drilled 5.37 ft.
Well finished to 5.37 ft.
Borehole diameter: Top 10" in. Bottom 10" in.
Well was finished: [X] above grade [ ] flush mounted
If finished above grade, casing height (stick up) above land surface 2.5' ft.
Was steel protective casing installed? [X] Yes [ ] No

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.) (From land surface)	Diameter (inches)	Type and Material
Inner Casing	+2.5	0.37	4"	Sch 40 PVC
Outer Casing (Not Protective Casing)	—	—	—	—
Screen 010 (Note slot size)	0.37	5.37	4"	Sch 40 PVC
Tail Piece	—	—	—	—
Gravel Pack	0.17	5.37	10"	#2 Morie
Annular Seal/Grout	0	0.17	10"	Bentonite/Portland
Method of Grouting	Pressure			

Static water level after drilling 2' ft.
Water level was measured using Steel Tape
Well was developed for — hours at — gpm
Method of development —
Was permanent pumping equipment installed? [ ] Yes [X] No
Pump capacity — gpm
Pump type: —
Drilling Method 10 1/4" ID HSA
Drilling Fluid None Type of Rig B-59
Name of Driller Steve Kovelesky
Health and Safety Plan submitted? [X] Yes [ ] No
Level of Protection used on site (circle one) None (D) C B A
N.J. Registration No. JD 11619
Name of Drilling Company HANDEX CORP./DENNIS HAYES

GEOLOGIC LOG

(Copies of other geologic logs and/or geophysical logs should be attached.)

0-1' Fill
1-5.37 Silty sand

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Driller's Signature [signature] Date 1/28/98

MONITORING WELL FORM A AND FORM B

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Allied Signal Inc.
Name of Facility: Former UOP Upland
Location: Murray Hill Pkwy, East Rutherford, NJ
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	26-49500
Owner's Well Number (As shown on the application or plans):	26T-R
Well Completion Date:	1/16/92
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.5
Total Depth of Well (one-hundredth of a foot):	16.5
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	
Screen Length (feet):	15
Screen or Slot Size:	010 Slot
Screen or Slot Material	PVC SCHEDULE 40
Casing Material: (PVC, Steel or Other-Specify):	PVC SCHEDULE 40
Casing Diameter (inches):	2
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	4
Yield (gallons per minute):	2 gpm
Development Technique (specify):	Pumped Surge
Length of Time Well is Developed:	Hours Minutes 35
Pumped or Bailed:	Pump
Lithologic Log:	Attached

Authentication

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Chris O'Shaughnessy
Name (Type or Print)

Signature

1419
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: _____

Name of Facility: UNIVERSAL OIL PRODUCTS/ALLIED SIGNAL

Location: EAST RUTHERFORD, NEW JERSEY

NJPDES Permit No.: _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP'S Water Allocation Section, 609-984-6831): This number must be permanently affixed to the well casing. __ __-__ __ __ __ __ __-__

Longitude (one-tenth of a second): West 74° - 05' - 12.9"

Latitude (one-tenth of a second): North 40° - 49' - 46.9"

Elevation of Top of Casing, Cap off (one-hundredth of a foot): Top of Casing 7.45 , PVC Insert 7.16

Owner's Well Number (As shown on the application or plans): MW26IR

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

JOHN J. DZIEMIAN

PROFESSIONAL LAND SURVEYOR'S NAME (Please print or type)

SEAL

NJ LIC. NO. GS37582

PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the NJPDES permit.

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Allied Signal Inc.
Name of Facility: Former Lop Uplands
Location: Murry Hill Pky East Rutherford, NJ
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	26-49501
Owner's Well Number (As shown on the application or plans):	29I-R
Well Completion Date:	12/16/98
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.5
Total Depth of Well (one-hundredth of a foot):	18
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	
Screen Length (feet):	15
Screen or Slot Size:	010 Slot
Screen or Slot Material	PVC SCHEDULE 40
Casing Material: (PVC, Steel or Other-Specify):	PVC SCHEDULE 40
Casing Diameter (inches):	2
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	4
Yield (gallons per minute):	2 gpm
Development Technique (specify):	Pump & Surge
Length of Time Well is Developed:	Hours Minutes 30
Pumped or Bailed:	Pumped
Lithologic Log:	Attached

Authentication

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Chris O'Shaughnessy
Name (Type or Print)

[signature]
Signature

1419
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: _____

Name of Facility: UNIVERSAL OIL PRODUCTS/ALLIED SIGNAL

Location: EAST RUTHERFORD, NEW JERSEY

NJPDES Permit No.: _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP'S Water Allocation Section, 609-984-6831): This number must be permanently affixed to the well casing. __ __-__ __ __ __ __ __-__

Longitude (one-tenth of a second): West 74° - 05' - 16.9"

Latitude (one-tenth of a second): North 40° - 49' - 42.8"

Elevation of Top of Casing, Cap off (one-hundredth of a foot): Top of Casing 8.08 , PVC Insert 7.71

Owner's Well Number (As shown on the application or plans): MW29IR

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

JOHN J. DZIEMIAN

PROFESSIONAL LAND SURVEYOR'S NAME (Please print or type)

SEAL

NJ LIC. NO. GS37582

PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the NJPDES permit.

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Allied Signal Inc.
Name of Facility: above.
Location: Murray Hill Parkway - East Rutherford
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	910-49502
Owner's Well Number (As shown on the application or plans):	MW-36R
Well Completion Date:	1/07/98
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	+2.5'
Total Depth of Well (one-hundredth of a foot):	8'
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	3'
Screen Length (feet):	5'
Screen or Slot Size:	.010 slot
Screen or Slot Material	PVC SCHEDULE 40
Casing Material: (PVC, Steel or Other-Specify):	PVC SCHEDULE 40
Casing Diameter (inches):	4"
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	2'
Yield (gallons per minute):	N/A
Development Technique (specify):	N/A
Length of Time Well is Developed:	Hours Minutes
Pumped or Bailed:	N/A
Lithologic Log:	Attached

Authentication

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Steve Kovelesky
Name (Type or Print)

Signature

JD 1609
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: _____

Name of Facility: UNIVERSAL OIL PRODUCTS/ALLIED SIGNAL

Location: EAST RUTHERFORD, NEW JERSEY

NJPDES Permit No.: _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP'S Water Allocation Section, 609-984-6831): This number must be permanently affixed to the well casing. __ __-__ __ __ __ __ __-__

Longitude (one-tenth of a second): West 74° - 05' - 16.7"

Latitude (one-tenth of a second): North 40° - 49' - 48.4"

Elevation of Top of Casing, Cap off (one-hundredth of a foot): Top of Casing 7.70, PVC Insert 7.52

Owner's Well Number (As shown on the application or plans): MW36R

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

JOHN J. DZIEMIAN

PROFESSIONAL LAND SURVEYOR'S NAME (Please print or type)

SEAL

NJ LIC. NO. GS37582

PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the NJPDES permit.

MONITORING WELL CERTIFICATION FORM A AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Allied Signal
Name of Facility: same
Location: Murray Hill Parkway - East Rutherford
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	26-49503
Owner's Well Number (As shown on the application or plans):	MW-37R
Well Completion Date:	1/07/98
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	+2.5
Total Depth of Well (one-hundredth of a foot):	7.85'
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.85'
Screen Length (feet):	5'
Screen or Slot Size:	.010 slot
Screen or Slot Material	PVC SCHEDULE 40
Casing Material: (PVC, Steel or Other-Specify):	PVC SCHEDULE 40
Casing Diameter (inches):	4"
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	1.75'
Yield (gallons per minute):	N/A
Development Technique (specify):	N/A
Length of Time Well is Developed:	Hours Minutes
Pumped or Bailed:	N/A
Lithologic Log:	Attached

Authentication

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Steve Kovelesky
Name (Type or Print)

Signature

JD 11609
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: _____

Name of Facility: UNIVERSAL OIL PRODUCTS/ALLIED SIGNAL

Location: EAST RUTHERFORD, NEW JERSEY

NJPDES Permit No.: _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP'S Water Allocation Section, 609-984-6831): This number must be permanently affixed to the well casing. — — - — — — — — — - —

Longitude (one-tenth of a second): West 74° - 05' - 21.8"

Latitude (one-tenth of a second): North 40° - 49' - 47.8"

Elevation of Top of Casing, Cap off (one-hundredth of a foot): Top of Casing 9.68, PVC Insert 9.50

Owner's Well Number (As shown on the application or plans): MW37R

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

JOHN J. DZIEMIAN

PROFESSIONAL LAND SURVEYOR'S NAME (Please print or type)

SEAL

NJ LIC. NO. GS37582

PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the NJPDES permit.

CLEAN FILL DOCUMENTATION

Area between cap
and Murray Hill Pkw

K.L. BREEN TRUCKING
319 WEST PLEASANTVIEW AVENUE
HACKENSACK, NEW JERSEY 07601
(201) 457-3333

April 14, 1999

Allied Signal Inc.
101 Columbia Avenue
Morristown, NJ 07962

Attn: Mr. Frank Leming

Subject: Borrow Source Verification
Route 17/Route 4, Paramus, NJ

Gentlemen:

In reference to the common borrow fill material that will be sent to the UOP Uplands site in East Rutherford, New Jersey, please be advised that the site location is at Route 17/Route 4, Township of Paramus, Bergen County. The site was formerly the location of a commercial building with a paved parking area. To the best of my knowledge, and belief, the material from this source is not contaminated.

If you require any additional information, please feel free to contact me.

Very truly yours,

Kevin L. Breen

topsoil NO cap

CITY CONTRACTING INC.

62 Bog and Vly Lane
Lincoln Park, New Jersey 07035

Office: (973) 427-3030
Fax: (973) 427-4040

Integrated Technical Services
P.O. Box 156
Winslow, N.J. 08095
Mr. Dave Wilder.

4/1/99

RE: Topsoil at the Anthony Bakery Site, Denville, N.J.

Dear Mr. Wilder;

In reference to the soil sample which we have forwarded to you, this site is known to be a virgin site. It is located on the Township of Denville, Morris County, Luger Road, Lot 4 Block 31601.To the best of our knowledge, this topsoil contains no contaminants. If you need further information please call me.

Sincerely,

Peter J. Caruso Jr.

PJR Industries
Post Office Box [illegible]
Bayonne, New Jersey 07002

Phone: (201) 998-7600
FAX: (201) 998-3637

May 22,1996

Smith Environmental Technologies, Inc.
U.S. 17 North and Patterson Plank Road
PO Box 308
Rutherford, NJ 07073
Attn: Mr. Mike Self

Re: Recycled Concrete Aggregate
Hudson Materials

Dear Mr. Self,

P.J.R. Industries Inc. is a NJDEPE approved recycling center #0239001140, located in North Arlington, NJ. P.J.R. accepts and recycles concrete, concrete block, brick, asphalt, and dirt.

P.J.R. hereby certifies that our recycled material is clean of any contaminants. If you have any additional questions please call me directly.

Sincerely,

Gary Gurelick
P.J.R. Industries Inc.

TOTAL P.01

TOTAL P.03

[illegible] LABORATORIES, INC.

TABLE-3

CLIENT: CANONIE TECHNOLOGIES

DATE OF REPORT

REPORT NO.

PROJECT: RT 17 & PATERSON PLANK RD.

DATE REC'D. 4-10-96

SHEET NO. 3 OF 4

RESULTS OF WASHED SIEVE ANALYSES

Screen U.S. Std. Series	TEST RESULTS			SPECIFICATIONS				
	Sample No	Sample No	Sample No	Commercial		D.O.T.		
	3/4" Shoulder STONE	1½" [illegible] STONE		Coarse		Size No. 4		
Color	Gray	Gray						
2 Inch		100.0				100		
1 ½ Inch		97.3				90-100		
1 Inch		32.7				20-55		
3/4 Inch	100.0	3.6				0-15		
1/2 Inch	97.2	0.9				--		
3/8 Inch	90.5	0.0				0-5		
4	66.4							
8	44.0							
16	32.1							
30	25.3							
50	20.6							
100	16.1							
200	11.4			0-20				

REMARKS:

D.M.

CHECKED BY

K.S.

HUDSON
M·A·T·E·R·I·A·L·S
FILL & RCA · DUMP SITES · TRUCK RENTAL
142 Orient Way
Rutherford, NJ 07070
Phone (201) 868 5515
Fax (201) 868 1711

May 29, 1996.

Canonie Technologies, Inc.
U.S. 17 North and Paterson Plank Rd.
East Rutherford, NJ P.O. Box 308

Dear Mike Self:

This will respond to your fax of May 17, in which you request the following information:

The material will be obtained from PJR Industries Inc. 2 Porete Ave. North Arlington NJ 07032. NJ DEPE License NO 023900114C.

As the attached letter states and to the best of my knowledge and belief, the recycled concrete aggregate being provided, is free of any contaminants.

Please do not hesitate contacting me if you have any questions.

Truly yours,

Gus Sylvaco

SHIMEL and SOR TESTING LABORATORIES, INC.

TABLE-1

CLIENT: CANONIE TECHNOLOGIES
SMITH ENVIRONMENTAL

DATE OF REPORT 4-17-96

REPORT NO.

PROJECT: RT 17 & PATERSON PLANK RD.

DATE REC'D. 4-10-96

SHEET NO. 1 OF 4

RESULTS OF WASHED SIEVE ANALYSES

Screen U.S. Std. Series	TEST RESULTS			SPECIFICATIONS				
	Sample No	Sample No	Sample No	QUARRY PROC.		D.O.T.		D.O.T.
	Q P.	3/4" CLEAN STONE	2 1/2" CLEAN STONE	Q P.		#67 STONE		#24 STONE
Color	Gray	Gray	Gray					
2 1/2 INCH			96.1					90-100
2 Inch			68.6					
1 1/2 Inch	100.0		29.4	100.0				25-60
1 Inch	91.1	100.0	1.0			100.0		
3/4 Inch	79.5	86.5		55-90		90-100		0-10
1/2 Inch	61.5	31.5						0-5
3/8 Inch	49.5	5.6				20-55		
4	29.6	1.1		25-60		0-10		
8	20.5					0-5		
16	15.5							
30	12.5							
50	10.3			5-25				
100	8.2							
200	6.1			3-12				

REMARKS:

D.M.

CHECKED BY

MAL-BROS
TRANSPORTATION
CORPORATION

125 POMPTON PLAINS CROSSROAD, WAYNE, NEW JERSEY 07470 • (201) 831-0022

August 14, 1996

Mr. Ken Grams
Smith Environmental Technologies
P.O. Box 308
East Rutherford, New Jersey 07073

Dear Mr. Grams:

Please be advised that the shale clay material delivered from our jobsite located on Porete Avenue Lyndhurst, New Jersey is free and clear of any and all contaminates.

Should you require any further information, please do not hesitate to contact me.

Very truly yours,

MAL-BROS TRANSPORTATION CORPORATION

Louis J. Melanga, Jr.
President

LJM:lkl

SHIMEL ... SOR TESTING .ABORATORIES, INC.

CLIENT: CANONIE

Date of Report: 8-2-96

Report No.:

PROJECT: RT. 17 & PATERSON PLANK RD.

Date Rec'd: 8-1-96

SOURCE: MAL BROS

Sheet No.: 1 of 1

RESULTS OF WASHED SIEVE ANALYSIS

Screen U.S. Std. Series	TEST RESULTS		SPECIFICATIONS	
	Sample No. 27	Sample No.		
	COMMON FILL			
Color	Dark Reddish Brown			
2 inch	94.0			
1 1/2 inch				
1 inch	84.0			
3/4 inch	74.0			
1/2 inch	61.7			
3/8 inch	49.7			
4	30.3			
8	24.7			
16	20.7			
30	15.3			
50	17.8			
100	12.7			
200	10.8			

Remarks:

D.M.

K.S.

CHECKED BY:

CHARLES SHIMEL CONSULTING ENGINEERS, INC.

CLIENT: CANONIE

Date of Report: [illegible]

Report No.:

PROJECT: RT. 17 & PATERSON PLANK RD.

Date Rec'd: 5-8-96

Sheet No.: of

RESULTS OF WASHED SIEVE ANALYSIS

SOURCE : MALBROS

Screen U.S. Std. Series	TEST RESULTS		SPECIFICATIONS	
	Sample No. 16	Sample No. 17	DOT	[illegible]
	COMMON FILL	COMMON FILL	I-6	
Color	Grayish Brown	Brown		
2 inch				
1 1/2 inch	100.0			
1 inch	95.9	100.0	100.0	
3/4 inch	86.0	97.6		
1/2 inch	70.7	96.5	80-100	
3/8 inch	62.6	94.8		
4	48.3	89.0		
8	41.1	80.0	45-100	
16	35.7	73.7	30-80	
30	30.1	63.3		
50	23.1	49.3	0-20	
100	15.9	37.4	0-3	
200	12.0	26.4		25% [illegible]

Remarks:

D.M.

CHECKED BY:

K.[illegible]

CHARLES SHIMEL CONSULTING ENGINEERS, INC.

CLIENT:	CAMONE	Date of Report:	5-10-[illegible]
		Report No.:	
PROJECT:	RT 17 & PATERSON PLANK RD.	Date Rec'd:	5-3-96
		Sheet No.:	of

RESULTS OF WASHED SIEVE ANALYSIS

Sand Source: MALBROS

Screen U.S. Std. Series	TEST RESULTS		SPECIFICATIONS	
	Sample No. 15	Sample No.	D.O.T.	
	SAND		2-6	
Color	Grey Stone / Yellowish Brn			
2 inch				
1 1/2 inch				
1 inch			100.0	
3/4 inch				
1/2 inch			85-100	
3/8 inch	100.0			
4	98.3			
8	83.0		45-100	
16	68.7		30-50	
30	53.0			
50	20.3		0-20	
100	1.5		0-2	
200	0.7			

Remarks:

D.M. K.

CHECKED BY:

A & A GOMES CONSTRUCTION CORP.

SITE DEVELOPMENT CONTRACTORS

June 5, 1996

Canonie Enviromental
P.O.Box 308
E. Rutherford, New Jersey 07073

REF: Allied Signal

SUBJ: Common fill

CERTIFICATION

NAME: A & A GOmes Construction, Corp.
121 So. Midland Avenue
Kearny, New Jersey 07032

PROJECT: Prospect Heights Care Center
Prospect Avenue
Hackensack, New Jersey

1½ acres of Heavy Woods
Virgin Ground

Statement

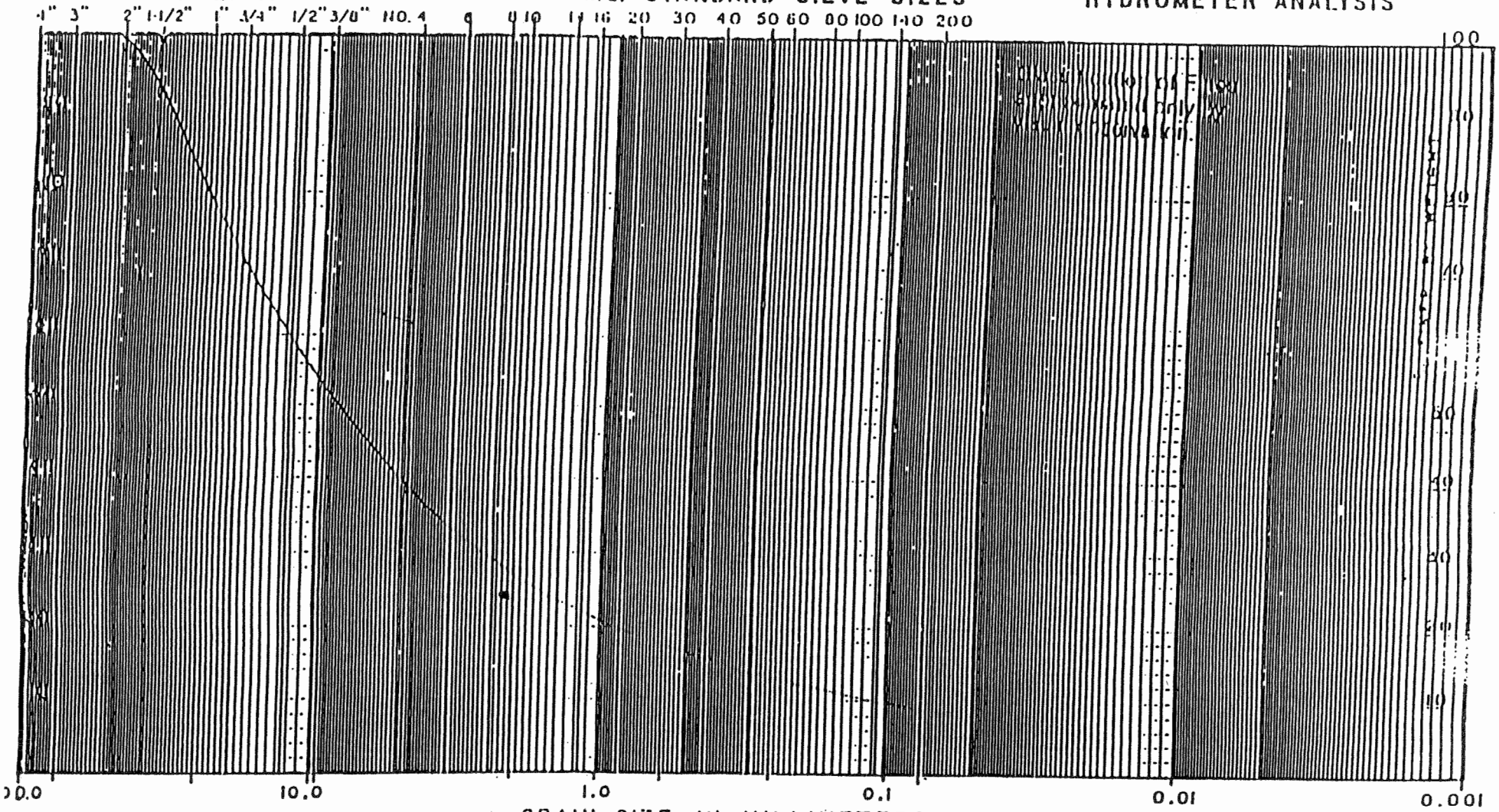
To the best of our knowledge this material is not contaminated.

It is unused virgin ground.

Very Truly Yours,

Robert Dunn
Project Manager

121 So. Midland Avenue · Kearny, N.J. 07032 · Tel.: (201) 824-6242 · Fax: (201) 824-1663



MECHANICAL ANALYSIS

SAMPLE NO.	ELEV.	IDENTIFICATION	MOIST. CONT.	L.L %	P.L.%	P.I.
20		Reddish Brown coarse to				
Common Fill		fine GRAVEL, some, coarse				
		to fine Sand, trace				

SHIMEL and SOR TESTING LABORATORIES, INC.

CLIENT: CANONIE

PROJECT: RT. 17 & PATERSON PLANK RD.

DATE: 5-31-96

JOS. H. FERGUSON & SONS, INC.
PAVING CONTRACTORS
P.O. BOX 823 · 607 FRANKLIN TURNPIKE
RIDGEWOOD, N. J. 07451
PHONE 445-1442

July 31, 1996

Canonie Technologies, Inc.
US 17 North & Patterson Plank Road
PO Box 308
East Rutherford, N.J. 07073

Att: Ken Graham

I Thomas R. Bolt as a representative of Joseph H. Ferguson & Sons, Inc. certify that to the best of my knowledge the fill coming from 295 North Street, Teterboro, N.J. is clean and free of contaminated material.

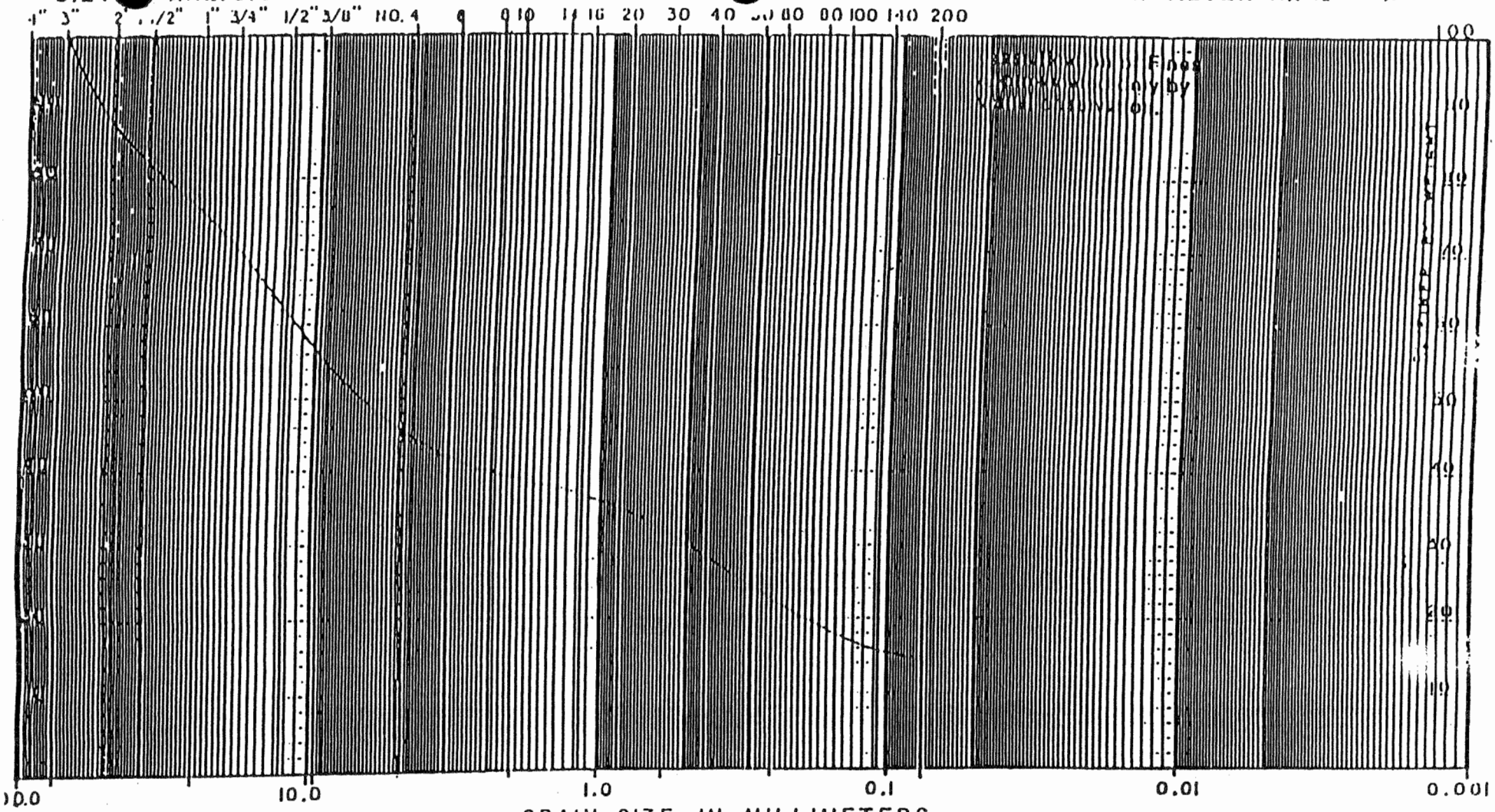
Very truly yours,

JOSEPH H. FERGUSON & SONS, INC.

Thomas R. Bolt Manager

Thomas R. Bolt, Manager

TRB/jb



MECHANICAL ANALYSIS

SAMPLE NO.	ELEV.	IDENTIFICATION	MOIST. CONT.	L.L %	P.L.%	P.I.
22		Reddish Brown coarse				
Common		to fine GRAVEL and,				
FILL		coarse to fine Sand,				
		little Silt				

SHIMEL and SOR
TESTING LABORATORIES, INC.

CLIENT: CANONIE TECH.

PROJECT: RT. 17 & PATERSON PLANK RD.

DATE: 6-30-96 FIGURE NO. 1

K. L. Breen Trucking

155 West Shore Avenue
Bogota, NJ 07603

Phone 201-343-9173
Beeper 201-761-3333

August 29, 1996

Canonie Technologies, Inc.
P.O. Box 308
Murray Hill Parkway
East Rutherford, NJ 07073

To Whom It May Concern,

The material that we will be delivering to you from the Hackensack Medical Center, 30 Prospect Avenue, Hackensack, NJ, to the best of my knowledge does not contain any contaminates or hazardous materials.

Sincerely,

Kevin L. Breen

SHIMEL and SOR TESTING LABORATORIES, INC.

CLIENT: [illegible]	Date of Report: 8-22-96
	Report No.:
PROJECT: [illegible]	Date Rec'd: [illegible]
[illegible]	Sheet No.: [illegible] of [illegible]

RESULTS OF WASHED SIEVE ANALYSIS

Screen U.S. Std. Series	TEST RESULTS		SPECIFICATIONS
	Sample No. [illegible]	Sample No. #[illegible]	
	[illegible]	[illegible]	
Color	[illegible]	[illegible]	
2 inch 3-inch	100.0 [illegible]	[illegible]	
1 1/2 inch	[illegible]	[illegible]	
1 inch	[illegible]	[illegible]	
3/4 inch	[illegible]	[illegible]	
1/2 inch	[illegible]	[illegible]	
3/8 inch	[illegible]	[illegible]	
4	[illegible]	[illegible]	
8	[illegible]	[illegible]	
16	[illegible]	[illegible]	
30	[illegible]	[illegible]	
50	[illegible]	[illegible]	
100	[illegible]	[illegible]	
200	[illegible]	[illegible]	

Remarks: [illegible]

CHECKED BY: [illegible] K.S.

BRAEN STONE INDUSTRIES, INC.
P.O. BOX 8310 • HALEDON, NJ 07538
(201) 595-6250 FAX (201) 595-6920

Smith Environmental Corp.
P.O. Box 308
East Rutherford, N.J. 07073

August 6, 1996

Attn: Ken Grams

Re: Uplands Site
East Rutherford, N.J.

Dear Sirs,

This letter is to certify that the recycled concrete that was delivered to the above referenced project is manufactured at our quarry location in Haledon, N.J. The material is manufactured from broken concrete brought into the Quarry. Every effort is made to keep the raw material free of asphalt or dirt. To the best of our knowledge, this material is free from any chemical contaminants and will meet EPA standards. It has been tested and approved by N.J.D.O.T. for use as Quarry Process (DGABC).

If we can be of any further assistance, please contact us at the telephone number listed above.

Very truly yours,
STONE INDUSTRIES, INC.

Thomas H. Lynch
Sales Representative

RECEIVED
AUG 0 8 1996
SMITH ENVIRONMENTAL

K.L. BREEN TRUCKING

155 WEST SHORE AVENUE
BOGOTA, NJ 07603

Phone 201-343-9173
Beeper 201-761-3333

September 27, 1996

Canonie Technologies, Inc.
P.O. Box 308
Murray Hill Parkway
East Rutherford, NJ 07073

To whom it may concern:

The material that we will be delivering to you from Sike Corp. at 201 Polito Avenue, Lyndhurst, to the best of my knowledge does not contain any contaminates or hazardous materials.

Sincerely,

Kevin L. Breen

SHINEL and SOR TESTING LABORATORIES, INC.

CLIENT: CANONIE	Date of Report: 8-8-96
	Report No.:
PROJECT: RT. 17 & PATERSON PLANK R.D.	Date Rec'd: 8-6-96
SOUCE: BRAEN	Sheet No.: 1 of 1

RESULTS OF WASHED SIEVE ANALYSIS

Screen U.S. Std. Series	TEST RESULTS		SPECIFICATIONS	
	Sample No. 28	Sample No.	Project	
	COMMON BORROW		Spec. #: Common Borrow	
Color	Grayish Brown			
~~2 inch~~ 6-inch	100.0		100	
1 1/2 inch	100.0			
1 inch	91.9			
3/4 inch	85.9			
1/2 inch	72.3			
3/8 inch	66.4			
4	53.8			
8	46.7			
16	39.3			
30	31.5			
50	21.3			
100	13.5			
200	9.3		20.0	

Remarks: SAMPLE CONTAINS ASPHALT, BRICKS, RECYCLED CONCRETE, & ORGANICS

D.M.

CHECKED BY: K.S.

SHIMEL and SOR TESTING LABORATORIES, INC.

CLIENT: CANONIE

Date of Report: 9-27-96

Report No.:

PROJECT: RT. 17 & PATERSON PLANK RD

Date Rec'd: 9-25-96

SOURCE: GREEN TRUCKING

Sheet No.: 1 of 1

RESULTS OF WASHED SIEVE ANALYSIS

Screen U.S. Std. Series	TEST RESULTS		SPECIFICATIONS	
	Sample No. 32	Sample No.	PROJECT SPEC	
	COMMON BORROW		COMMON BORROW	
COLOR	DARK BROWN			
6 INCH	100.0		100	
3 1/2 INCH	77.0			
2 inch	39.9			
1 1/2 inch	79.6			
1 inch	66.0			
3/4 inch	61.6			
1/2 inch	53.3			
3/8 inch	49.5			
4	46.1			
8	39.0			
16	35.1			
30	30.9			
50	26.7			
100	22.4			
200	19.1		20.0	

Remarks: SAMPLE CONTAINS SOME ORGANIC MATTER

D.M.

K.S.

CHECKED BY:

SHIMEL and SOR TESTING LABORATORIES, INC.

CLIENT: CANONIE

Date of Report: 11-27-96

Report No.:

PROJECT: RT 17 & PATERSON PLANK RD.

Date Rec'd: 11-26-96

SOURCE: MADDOX

Sheet No.: 1 of 1

RESULTS OF WASHED SIEVE ANALYSIS

Screen U.S. Std. Series	TEST RESULTS		SPECIFICATIONS	
	Sample No. 36	Sample No.		
	COMMON BORROW			
Color	Reddish Brown			
2 inch	100.0			
1 1/2 inch	86.9			
1 inch	76.6			
3/4 inch	69.6			
1/2 inch	56.1			
3/8 inch	45.5			
4	30.1			
8	24.9			
16	19.7			
30	15.9			
50	13.0			
100	10.6			
200	8.9		0-20	

Remarks: Reddish Brown coarse to fine GRAVEL
some, coarse to fine Sand, trace(+) Silt
Sample Contains some Cobble Pieces

CHECKED BY: D.M. E.S.

November 27, 1996

C & C Builders
10 Evans Street
Fairfield, NJ 07044

To Whom it May Concern,

The material that is being ~~shipped to the above~~ FROM address is to the best of my knowledge is not contaminated nor hazardous material. If you have any questions please contact me.

Sincerely,

Kevin L. Breen

SHIMEL and SOR TESTING LABORATORIES, INC.

CLIENT: CANONIE

Date of Report: 10-16-96

Report No.:

PROJECT: RT 17 & PATERSON PLANK RD.

Date Rec'd: 10-15-96

SOURCE: BREEN TRUCKING

Sheet No.: 1 of 1

RESULTS OF WASHED SIEVE ANALYSIS

Screen U.S. Std. Series	TEST RESULTS		SPECIFICATIONS	
	Sample No. 34	Sample No.		
	COMMON BORROW			
Color	Dk Yellowish Brn			
2 inch				
1 1/2 inch	100.0			
1 inch	94.9			
3/4 inch	90.5			
1/2 inch	85.7			
3/8 inch	83.1			
4	77.7			
8	70.9			
16	65.4			
30	57.6			
50	46.2			
100	35.1			
200	27.6			

Remarks: SAMPLE CONTAINS: ORGANIC MATTERS

O.M.

K.S.

CHECKED BY:

DUMP TRUCKS
TRAILERS
MACHINE RENTALS

EARTHWORK
MATERIALS
PAVING & UTILITIES

Maddox Trucking, Inc.

323 MAIN STREET
SPOTSWOOD, NEW JERSEY 08884
(908) 251-0054

Canonie Technologies Inc.
P.O.Box 308
East Rutherford, N.J. 07073

12-2-96

RE: Murray Hill Parkway
East Rutherford Job

ATT: Ken Grams

The material Maddox plans on providing originates from the Calvin Klein site located at Foot of Porete Ave. in North Arlington New Jersey. To the best of my knowledge this is a virgin site and the material does not contain any contaminents.

Thank You,

William Maddox
President

SHIMEL and SOR TESTING LABORATORIES, INC.

Testing · Inspection · Consultation

98 Sand Park Rd., Cedar Grove, N. J. 07009
(201) 239-6001
FAX (201) 239-8380

Branch Office:
118 - 120 Sandford St.
New Brunswick, N. J. 08901
(908) 494-2448
FAX (908) 247-4421

Kamil Sor, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.

This report is the confidential property of the Client, and information contained may not be published or reproduced without our written permission

Client	Smith Environmental/Canonie Environmental
Project	UOP Upland Site
Subject	Gradation Test of Common Borrow Soil (Source: Maddox)
	Job No. 96-090 Report No 96-4878 Date 11/27/96

Attached are laboratory test results of the soil material received on November 27, 1996. At the client's request, the sample was tested for sieve analysis and fraction passing No. 200 sieve as per ASTM-D422 and D1140, respectively.

The test results are presented on the attached figure 1.

The sample tested meets the "Common Borrow" material requirements of the project specifications.

SHIMEL AND SOR TESTING LABORATORIES, INC.

Kamil Sor, Ph.D.
President

KS:aa
cc: (1) Client/
Attn: Mr. Jeff Harris - Via Facsimile (219)926-7169 and Reguler Mail

MATERIAL CONFORMANCE TESTING

CAP SAND

SOR TESTING LABORATORIES, INC.

Geotechnical Engineering - Materials Testing - Forensic Studies

98 Sand Park Rd., Cedar Grove, NJ 07009
(973) 239-6001 Fax (973) 239-8380

Branch Office:
118 - 120 Sandford St.
New Brunswick, NJ 08903
(732) 494-2448 Fax (732) 247-4421

Kamil Sor, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.

This report is the confidential property of the Client, and information contained may not be published or reproduced without our written permission.

Client:	ENSR		
Project:	UOP Site Cap Construction		
Subject:	Laboratory Testing of Two Soil Materials		
Job No.:	98-536	Report No.: 98-7177	Date: 12/9/98

We present herewith laboratory test results of two soil aggregate samples received on December 2, 1998. At the client's request, the samples were tested for several properties as presented herein.

TEST RESULTS

Sample A

a. Sieve Analysis (ASTM-D 422)

See attached Figure 1.

b. Internal Friction Angle (Direct Shear Test)

This test was done at 90% of the modified proctor value (116.4 lbs. per cu. ft.)

Internal Friction, ø = 35 degree

Sample B

a. Sieve Analysis (ASTM-D 422)

See attached Figure 2

SOR TESTING LABORATORIES, INC.

ENSR

Report No. 98-7177
Page 2

b. Proctor (ASTM-D 1557

See attached Figure 3

VENTING
121.7

The proctor value was 123.1 lbs. per cubic foot at an optimum moisture content of 6.3%.

c. Internal Friction Angle (ASTM-D 3080)

This test was done at 90% of the Modified Proctor value.

Internal Friction, ø = 33 degrees

d. Water Permeability (ASTM-D 2434)

This test also was done at 90% of the proctor value.

$K = 1.3 \times 10^{-2}$ cm/sec.

Very truly yours,

SOR TESTING LABORATORIES, INC.

Kamil Sor, Ph.D.
President

KS/ns
cc: (1) Client, Attn: Steve Surman

SOR TESTING LABORATORIES, INC.

Geotechnical Engineering - Materials Testing - Forensic Studies

98 Sand Park Rd., Cedar Grove, NJ 07009
(973) 239-6001 Fax (973) 239-8380

Branch Office:
118 - 120 Sandford St.
New Brunswick, NJ 08903
(732) 494-2448 Fax (732) 247-4421

Kamil Sor, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.

CLIENT: ENSR

DATE OF REPORT:

REPORT NO.:

PROJECT: UOP Cap Construction

DATE RECEIVED: 12-2-98

Sample A

SHEET NO.: OF

RESULTS OF WASHED SIEVE ANALYSIS

Color and U.S. Std. Sieve Size	TEST SAMPLE NO. A	N. J. D. O. T. SPECIFICATION												
		I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	I-10	I-11	I-12	I-13
Color														
2 inch		70-100	100		100	100				60-100	80-100	80-100		
1 1/2 inch														
1 inch					60-100		100	100						
3/4 inch		50-95	65-100	60-100		70-100				60-100	60-100	60-100	70-100	
1/2 inch	100.0				40-100		60-100	60-100	100					
3/8 inch	100.0													
4	98.5	30-60	40-75	30-100	25-100	30-80			95-100	40-100	40-100	40-100		30-100
8	81.5				20-100		45-100	35-100						
16	62.0				15-85		30-80	25-90	40-70	20-70	20-70			
30	42.3													
50	20.0	5-25	5-30	5-35	6-45	10-35	0-20	5-50	5-25	5-35	5-40	0-75	0-75	
100	5.9						0-3	0-8		0-20	0-30			
200	3.2	0-7	0-7	0-5	5-10	5-12		0-2	0-5	0-8	0-20	0-9	0-5	0-12

REMARKS:

D. M.
CHECKED BY:

K. S.
SIGNED:

Figure -1

SOR TESTING LABORATORIES, INC.

Geotechnical Engineering - Materials Testing - Forensic Studies

98 Sand Park Rd., Cedar Grove, NJ 07009
(973) 239-6001 Fax (973) 239-8380

Branch Office:
118 - 120 Sandford St.
New Brunswick, NJ 08903
(732) 494-2448 Fax (732) 247-4421

Kamil Sor, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.

CLIENT: ENSR DATE OF REPORT: 12-4-98

REPORT NO.:

PROJECT: UOP CAP CONSTRUCTION DATE RECEIVED: 12-2-98

Sample B SHEET NO.: OF

RESULTS OF WASHED SIEVE ANALYSIS

Color and U.S. Std. Sieve Size	TEST SAMPLE NO. B	N. J. D. O. T. SPECIFICATION												
		I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	I-10	I-11	I-12	I-13
Color	Gray													
2 inch		70-100	100		100	100				80-100	80-100	80-100		
1 1/2 inch														
1 inch					60-100		100	100						
3/4 inch		50-85	65-100	60-100		70-100				60-100	60-100	60-100	70-100	
1/2 inch	100.0				40-100		80-100	80-100	100					
3/8 inch	97.0													
4	86.4	30-60	40-75	30-100	25-100	30-80			95-100	40-100	40-100	40-100		30-100
8	56.0				20-100		45-100	35-100						
16	38.4				15-85		30-80	25-60	40-70	20-70	20-70			
30	25.0													
50	13.0	5-25	5-30	5-35	8-45	10-35	0-20	5-50	5-25	5-35	5-40	0-75	0-75	
100	6.0						0-3	0-8		0-20	0-30			
200	3.3	0-7	0-7	0-5	5-10	5-12		0-2	0-5	0-8	0-20	0-9	0-5	0-12

BLANK CELL MEANS NJDOT HAS NO SPEC. FOR THIS SIEVE SIZE

REMARKS:

D.M. K.S.

CHECKED BY: SIGNED:

Figure - 2

SOR TESTING LABORATORIES, INC.

Report for: ENSR Report No. _____ Sheet _____

Project: UOP CAP CONSTRUCTION Date: 12-4-98

MOISTURE-DENSITY RELATIONS TEST

Sample No.: B Material: Gray c-f Sand, trace Silt, a. m-f Gravel

Test Performed in Accordance With: ASTM D 1557-91 METHOD 'C'

Fraction Used For Test: - #4

Diameter Of Mold: 4" No. Of Layers: 5 Blows Per Layer: 25

Maximum Dry Density (Lbs. Per Cu. Ft.): 123.1 Optimum Moisture Content: 6.3 %

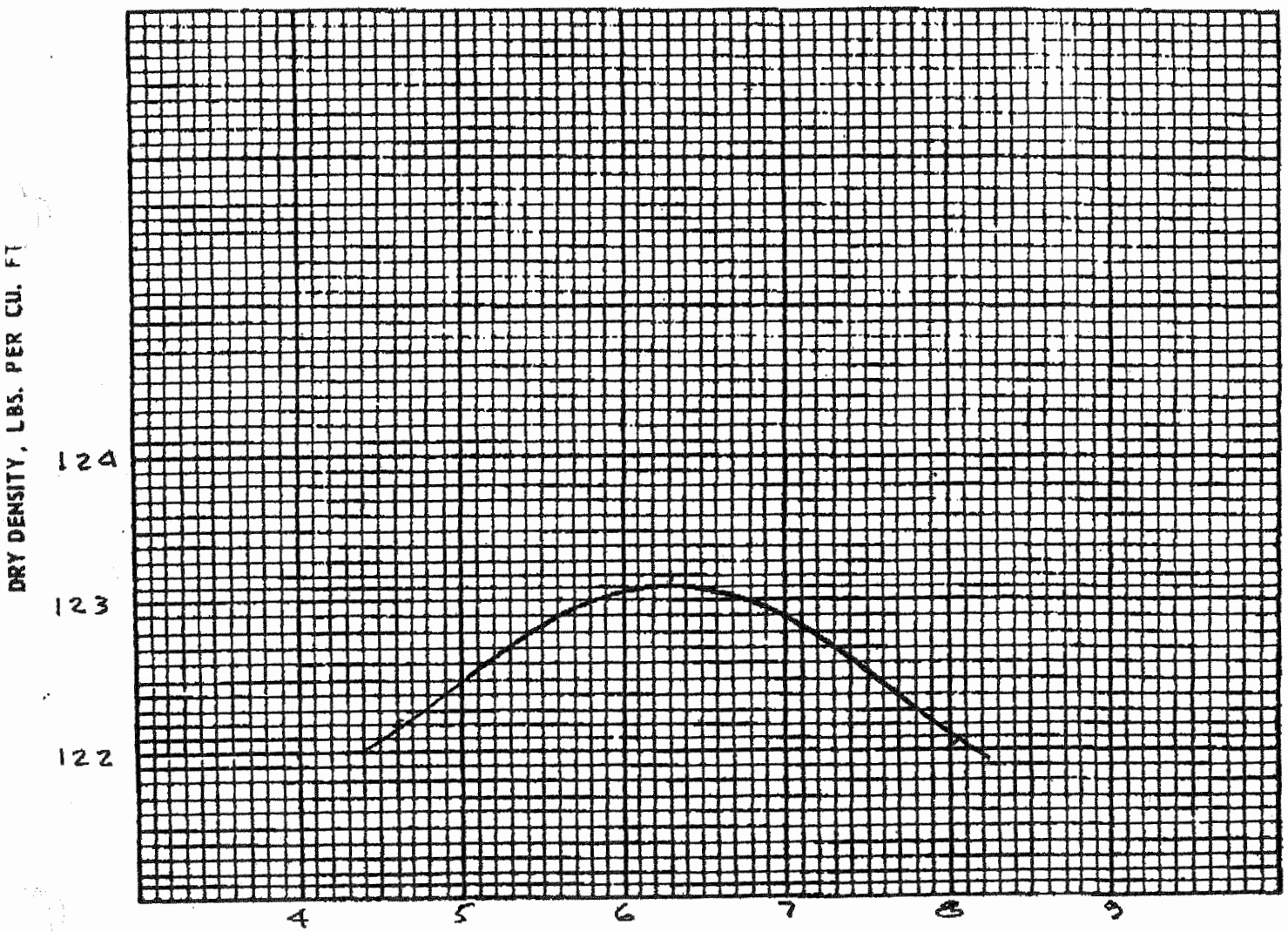


FIG. NO. 2

TNS Advanced Technologies

681 DeYoung Road
Greer, South Carolina 29651
Phone: (800) 867-5181
Fax: (864) 879-4639

Geotextile Product Description Sheet

Style TNS R042

TNS R042 is a superior quality, nonwoven geotextile produced by needlepunching together 100% polypropylene staple fibers in a random network to form a high strength dimensionally stable fabric. The polypropylene fibers are specially formulated to resist ultraviolet light deterioration, and are inert to commonly encountered soil chemicals. The fabric will not rot or mildew, is non-biodegradable, and is resistant to damage from insects and rodents. Polypropylene is stable within a ph range of 2 to 13. TNS R042 meets AASHTO M288-92 for Nonwoven Medium Survival Separation Fabrics. TNS R042 conforms to the physical property values listed below:

Fabric Property	Test Method	Units	Minumum Average Roll Value
Weight (typical)	ASTM D 3776	oz/sy	4.5 (153 g/sm) (3)
Grab Tensile	ASTM D 4632	lbs	120 (.54 kN)
Grab Elongation	ASTM D 4632	%	50 (60)
Trap Tear	ASTM D 4533	lbs	50 (.22 kN) (40)
Puncture	ASTM D 4833	lbs	70 (.31 kN) (30)
Mullen Burst	ASTM D 3786	psi	240 (1654 kPa) (90)
Permittivity*	ASTM D 4491	1/sec	1.8 (0.7)
Water Flow*	ASTM D 4491	gpm/sq.ft.	120 (4887 l/min/sm) (60)
A.O.S.	ASTM D 4751	U.S. Sieve	70 (.212 mm) (60)
U.V. Resistance	ASTM D 4355	%	70
Warranty?			

PACKAGING	
ROLL DIMENSIONS - FEET	12.5/15 x 360
SQUARE YARDS PER ROLL	500/600
ESTIMATED ROLL WEIGHT - POUNDS	152/180

* At the time of manufacturing, handling may change these properties.

To the best of our knowledge, the information contained herein is accurate. However, TNS Mills, Inc. cannot anticipate all conditions under which TNS Mills' product information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety or suitability of our products either alone or in combination with other products. Final determination of the suitability of any information or material for the use contemplated, of its manner of use, and whether the suggested use infringes any patents is the sole responsibility of the user.

CTL
CERTIFIED TESTING LABORATORIES, INC.

2623 ROBERTS AVE PO BOX 444 BRONX. NY 10461 718-824-1616

LAB NO. N.Y.
DATE 12/3/98

TECHNICIAN Rob Alberto

FIELD COMPACTION DATA SHEET

CLIENT: I.T.S.

PROJECT: UOP CAP (Allied Signal)

A South Slope 6" Sand layer (VENTING Layer)

B

C " " " "

D

E

STATION OF TEST

CHECK POINT NO.		1	2	3	4	5
1. WT. SAND & TARE (BEFORE) – LB.	(JAR OF SAND)	15.41		14.32		
2. WT. SAND & TARE (AFTER) – LB.	(JAR OF SAND)	9.29		9.21		
3. WT. SAND USED – TOTAL LB.	(1 – 2)	6.12		5.11		
4. WT. SAND IN FUNNEL – LB.	(3.84)	3.84		3.84		
5. NET SAND IN HOLE - LB.	(3 – 4) (SAND WT)	2.28		1.27		
6. SAND WT. LB. PER FOOT	(98.4)	98.4		98.4		
7. NET VOLUME – CU. FT.	(5 ÷ 6) (VOL. OF HOLE)	.0231		.0129		
8. WT. SOIL & TARE - LB.	(SOIL FROM HOLE)	3.58		3.62		
9. WT. OF TARE PAN – LB.		.28		.28		
10. WT OF SOIL (FROM HOLE)	(8 – 9) – LB.	3.30		3.34		
11. WET DENSITY (FIELD) TOTAL	(10 ÷ 7) (PCF)	142.9		258.9		
12. WT. WET SOIL MINUS TARE	(FOR MOISTURE)	1.0		1.0		
13. WT. OF DRY SOIL MINUS TARE	(AFTER DRYING)	.94		.94		
14. WT. OF WATER	(12 – 13) LBS.	.06		.06		
15. MOISTURE CONTENT - %	(14 ÷ 13) X 100	6.4		6.4		
16. DRY DENSITY	106.4 11 ÷ (15 + 100) X 100 (PCF)	134.3		134.3		
17. MAX. DENSITY – PROCTOR GIVEN		121.7		121.7		
18. OPTIMUM MOISTURE CONTENT (FROM CURVES) PROCTOR MOISTURE						
19. % OF MAX. DENSITY OBTAINED (16 ÷ 17) % COMP.		110.3		110.3		

(PCF = POUNDS PER CUBIC FOOT)

CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Integrated Technical Services - PO Box 156 - Winslow Twp., NJ 08095

PROJECT: Allied Signal - E. Rutherford, NJ

TEST REQUIRED: 90% Field Density @ ASTM D2922

DATE TESTED: 12-11-98

SAMPLED BY: M. Bennett

LAB NO.: B-902C-98 REPORT NO.: FS-3 Page 1

FIELD DENSITY COMPACTION TESTS

Location of Tests

1. Test taken @ 0' from W. to E. on S. Swale Subgrade
2. Test taken @ 50' from W. to E. on S. Swale Subgrade
3. Test taken @ 100' from W. to E. on S. Swale Subgrade
4. Test taken @ 150' from W. to E. on S. Swale Subgrade
5. Test taken @ 200' from W. to E. on S. Swale Subgrade
6. Test taken @ 250' from W. to E. on s. Swale Subgrade

Check Point No.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Dry Density #/c.f.	119.4	121.6	119.5	120.0	121.1	122.0
Proctor Test #/c.f. AASHTO method						
Modified Method	126.2	126.2	126.2	126.2	126.2	126.2
Other						
% Moisture	1.9	2.5	1.8	1.5	2.2	1.7
% Compaction	94.6	96.3	94.7	95.1	95.9	96.6

REMARKS:

Respectfully submitted,
Certified Testing Laboratories, Inc.

Joseph Cuozzo

Joseph Cuozzo/Vice President

REPORTED TO: 2 above

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ljh

Main Office

CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Integrated Technical Services - PO Box 156 - Winslow Twp., NJ 08095

PROJECT: Allied Signal - E. Rutherford, NJ

TEST REQUIRED: 90% Field Density @ ASTM D2922

DATE TESTED: 12-11-98

SAMPLED BY: M. Bennett

LAB NO.: B-902C-98 REPORT NO.: FS-3 Page 3

FIELD DENSITY COMPACTION TESTS

Location of Tests

1. Test taken @ 50' from S. to N. on E. Swale Subgrade
2. Test taken @ 100' from S. to N. on E. Swale Subgrade
3. Test taken @ 150' from S. to N. on E. Swale Subgrade
4. Test taken @ 200' from S. to N. on E. Swale Subgrade
5. Test taken @ 250' from S. to N. on E. Swale Subgrade
6. Test taken @ 300' from S. to N. on E. Swale Subgrade

Check Point No.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Dry Density #/c.f.	114.0	114.2	118.1	118.6	118.4	116.6
Proctor Test #/c.f. AASHTO method						
Modified Method	126.2	126.2	126.2	126.2	126.2	126.2
Other						
% Moisture	1.3	1.8	1.5	1.5	3.1	1.7
% Compaction	90.3	90.4	93.5	93.9	93.7	92.4

REMARKS:

Respectfully submitted,
Certified Testing Laboratories, Inc.

Joseph Cuozzo/Vice President

REPORTED TO: 2 above

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ljh

Main Office

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CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Integrated Technical Services - PO Box 156 - Winslow Twp., NJ 08095

PROJECT: Allied Signal - E. Rutherford, NJ

TEST REQUIRED: 90% Field Density @ ASTM D2922

DATE TESTED: 12-17-98

SAMPLED BY: R. Patel

LAB NO.: B-902C-98 REPORT NO.: FS-4

FIELD DENSITY COMPACTION TESTS

Location of Tests

1. Northwest Corner - Swale Trench - QP
2. 100' East from Northwest Corner - Swale Trench - QP
3. 200' East from Northwest Corner - Swale Trench - QP
4. 300' East from Northwest Corner - Swale Trench - Sand
5. 450' East from Northwest Corner - Swale Trench - Sand
6. 100' South from Northwest Corner - Swale Trench - QP (EAST Swale) SJS 12-23-98

Check Point No.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Dry Density #/c.f.	134.5	126.2	127.6	113.8	118.8	126.7
Proctor Test #/c.f. AASHTO method						
Modified Method	139.1	139.1	139.1	139.1	139.1	139.1
Other						
% Moisture	4.7	3.5	2.6	2.6	2.1	5.2
% Compaction	96.7	90.7	91.8	90.2	94.1	91.1

REMARKS: Locations provided by Site Supervisor.

Respectfully submitted,
Certified Testing Laboratories, Inc.

Joseph Cuozzo

Joseph Cuozzo/Vice President

REPORTED TO: 2 above

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SOR TESTING LABORATORIES, INC.

Geotechnical Engineering - Materials Testing - Forensic Studies

98 Sand Park Rd., Cedar Grove, NJ 07009
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Branch Office:
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New Brunswick, NJ 08903
(732) 494-2448 Fax (732) 247-4421

Kamil Sor, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.

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Client:	Riverdale Quarry		
Project:	Allied Signal		
Subject:	Water Permeability Test of Sand Sample		
Job No.:	94-156	Report No.: 98-6202	Date: 11/2/98

We present herewith laboratory test results of the sand sample received on October 30, 1998. The sample was tested for water permeability as per ASTM D-2434. It was also tested for proctor density as per ASTM-D 1557.

TEST RESULTS

- Water permeability, $k = 1.1 \times 10^{-2}$ cm/sec
- The maximum dry density = 116.4 lbs. per cubic foot at an optimum moisture content of 6.7%.
- 90% compaction, which was used for the permeability test, was 104.76 lbs. per cubic foot.

The sample tested meets the water permeability requirement of the project specification Part 2.01-B2.

Very truly yours,

SOR TESTING LABORATORIES, INC.

Kamil Sor, Ph.D.
President

KS/ns
cc: (1) Attn: Tom Dooley

CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Integrated Technical Services

PROJECT: Allied Signal, E. Rutherford, NJ

TEST REQUIRED: ≥ 90% Field Density @ ASTM D 2922.

DATE TESTED: 12-17-98

SAMPLED BY: R. Patel.

LAB NO.: REPORT NO.:

FIELD DENSITY COMPACTION TESTS

Location of Tests

1. Northwest Corner - Swale Trench - QP
2. 100' East from Northwest Corner - Swale Trench. - QP
3. 200' East from Northwest Corner - Swale Trench. - QP
4. 300' East from Northwest Corner - Swale Trench. - Sand
5. 450' East from Northwest Corner - Swale Trench - Sand
6. 100' South from Northwest Corner - Swale Trench - QP.

Check Point No.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Dry Density lt/c.f.	134.5	126.2	127.6	113.8	118.8	126.7
Proctor Test lt/c.f. AASHTO method						
Modified Method	139.1	139.1	139.1	126.2	126.2	139.1
Other						
% Moisture	4.7	3.5	2.6	2.6	2.1	5.2
% Compaction	96.7	90.7	91.8	90.2	94.1	91.1

REMARKS: Locations provided by Site Supervisor.

Respectfully submitted,
Certified Testing Laboratories, Inc.

REPORTED TO:

Joseph Cuozzo/Vice President

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Riverdale Quarry L.L.C.

SHIPPING

Date	10/9/98	Time	11:30 AM	Weather	Clear
Material	I-6	Type	SHIPPING	Samp By	Russ
		Wash		Belt SP.	

	Cumulative		Specification	
	Wt Pass	% Pass	Low	High
1 1/2"				
1"			100	
3/4				
1/2			80	100
3/8"	559.6	100.0		
#4	539.4	96.4		
#8	376.7	67.6	45	100
#16	231.1	41.9	30	90
#30	124.3	23.0		
#50	55.6	10.9		20
#100	11.0	2.9		3
#200	2.3	1.4		
Wash Loss	9.5			

Comments:

Riverdale Quarry L.L.C.

SHIPPING

Date	10/29/98	Time	2:00 PM	Weather	Clear
Material	I-6	Type	SHIPPING	Samp By	Brian
		Wash		Salt SP.	

	Cumulative		Specification	
	Wt Pass	% Pass	Low	High
1"			100	
3/4				
1/2			80	100
3/8"	548.2	100.0		
#4	507.8	92.7		
#8	360.9	66.1	45	100
#16	206.8	38.1	30	90
#30	138.1	25.7		
#40	67.2	12.8		20
#100	9.8	2.4		3
#200	3.1	1.2		
Wash Loss	3.6			

Comments:

Riverdale Quarry L.L.C.

SHIPPING

Date	11/9/98	Time	2:00 PM	Weather	Clear
Material	I-6	Type	SHIPPING	Samp By	Brian
		Wash		Belt SP.	

	Cumulative		Specification	
	Wt Pass	% Pass	Low	High
1"			100	
3/4				
1/2			80	100
3/8"	575.3	100.0		
#4	526.1	91.5		
#8	372.5	65.0	45	100
#16	214.9	37.8	30	90
#30	145.7	25.8		
#48	71.2	13.0		20
#100	10.2	2.4		3
#200	5.4	1.6		
Wash Loss	3.8			

Comments:

Riverdale Quarry L.L.C.

SHIPPING

Date	11/23/98	Time	2:00 PM	Weather	Clear
Material	I-6	Type	SHIPPING	Samp By	BRIAN
		Wash		Belt SP.	

	Cumulative		Specification	
	Wt Pass	% Pass	Low	High
1"			100	
3/4				
1/2			80	100
3/8"	638.1	100.0		
#4	607.9	95.3		
#8	458.9	72.1	45	100
#16	303.7	47.9	30	90
#30	168.7	26.9		
#40	71.8	11.8		20
#100	10.7	2.3		3
#200	1.5	0.8		
Wash Loss	3.6			

Comments: SECOND LEVEL
UNDER BELT

Riverdale Quarry L.L.C.

SHIPPING

Date	11/30/98	Time	2:00 PM	Weather	Clear
Material	I-6	Type	Shipping	Samp By	Brian
		Wash		Belt SP.	

	Cumulative		Specification	
	Wt Pass	% Pass	Low	High
1"			100	
3/4				
1/2	852.4	100.0	80	100
3/8'	852.4	100.0		
#4	847.9	99.5		
#8	608.7	71.6	45	100
#16	378.3	44.7	30	90
#30	209.9	25.0		
#50	94.7	11.6		20
#100	19.5	2.8		3
#200	8.2	1.5		
Wash Loss	4.5			

Comments:

Riverdale Quarry L.L.C.

SHIPPING

Date	12/1/98	Time	8:00 AM	Weather	Clear
Material	I-6	Type	Shipping	Samp By	Brian
		Wash		Belt SP.	

	Cumulative		Specification	
	Wt Pass	% Pass	Low	High
1"			100	
3/4				
1/2	611.4	100.0	80	100
3/8"	611.7	100.0		
#4	548.9	89.9		
#8	347.6	57.4	45	100
#16	221.8	37.1	30	90
#30	130.0	22.2		
#50	63.5	11.5		20
#100	10.2	2.9		3
#200	2.1	1.6		
Wash Loss	7.7			

Comments: NEXT TO SCRNS

Riverdale Quarry L.L.C.

SHIPPING

Date	12/2/98	Time	5:00 PM	Weather	Clear
Material	I-6	Type	SHIPPING	Samp By	Brian
		Wash		Bulk SP.	

659.0

	Cumulative		Specification	
	Wt Pass	% Pass	Low	High
2"				
1 1/2"				
1"			100	
3/4				
1/2	651.0	100.0	80	100
3/8"	651.0	100.0		
#4	613.2	94.3		
#8	431.1	66.6	45	100
#16	281.4	43.9	30	90
#30	164.6	26.2		
#50	79.3	13.2		20
#100	11.2	2.9		3
#200	3.5	1.7		
Wash Loss	8.0			

Comments: SECOND LEVEL

Riverdale Quarry L.L.C.

SHIPPING

Date	12/3/98	Time	7:30 AM	Weather	Clear
Material	I-6	Type	SHIPPING	Samp By	Brian
		Wash		Belt SP.	

590.9

	Cumulative		Specification	
	Wt Pass	% Pass	Low	High
2"				
1 1/2"				
1"			100	
3/4				
1/2	583.7	100.0	80	100
3/8"	567.2	97.2		
#4	521.9	89.5		
#8	360.1	62.2	45	100
#16	235.2	41.0	30	90
#30	141.3	25.1		
#50	69.5	13.0		20
#100	10.8	3.0		3
#200	2.5	1.6		
Wash Loss	7.2			

Comments: NEXT TO SCREENINGS

CETCO

COLLOID ENVIRONMENTAL TECHNOLOGIES COMPANY

TECHNICAL DATA SHEET

TR 404bm
5-1-96

BENTOMAT "Ss-100" CERTIFIED PROPERTIES

MATERIAL PROPERTY	TEST METHOD	TEST FREQUENCY, ft^2 (m^2)	REQUIRED VALUES
Bentonite Swell Index[1]	ASTM D 5890	1 per 50 tonnes	24 mL/2g min.
Bentonite Fluid Loss	ASTM D 5891	1 per 50 tonnes	18 mL max.
Bentonite Mass/Area[2]	ASTM D 5261	40,000 ft^2 (4,000 m^2)	0.75 lb/ft^2 (3.6 kg/m^2)
GCL Grab Strength[3]	ASTM D 4632	200,000 ft^2 (20,000 m^2)	90 lbs (400 N)
GCL Grab Elongation	ASTM D 4632	200,000 ft^2 (20,000 m^2)	15 percent typical
GCL Peel Strength	ASTM D 4632	40,000 ft^2 (4,000 m^2)	15 lbs (65 N)
GCL Index Flux[4]	ASTM D 5887	Weekly	1×10^{-8} $m^3/m^2/sec$
GCL Hydrated Internal Shear Strength[5]	ASTM D 5321	Periodic	500 psf (24 kPa) typical

Bentomat "SS-100" is a reinforced GCL consisting of a layer of Saline Seal sodium bentonite, that has been treated for enhanced chemical resistance, between a woven and a non-woven geotextile which are needlepunched together.

Notes:

1. Bentonite property tests performed at CETCO's bentonite processing facility before shipment to CETCO's GCL production facilities.
2. Bentonite mass/area reported at 0 percent moisture content. The reported value is equivalent to 0.95 psf at 20% moisture content, the GCL industry standard.
3. All tensile testing is performed in the machine direction, with results as minimum average roll values unless otherwise indicated.
4. Index Flux with deaired distilled water at 5 psi (35 kPa) confining pressure and 2 psi (15 kPa) head pressure. Reported value is equivalent to 925 gal/acre/day. This flux value is equivalent to a permeability of 5×10^{-9} cm/sec. This flux value should not be used for equivalency calculations. A flux test using gradients that represent field conditions must be performed to determine equivalency. The last 20 values may be reported from the end of the production date of the supplied GCL..
5. Peak value measured at 200 psf (30 kPa) normal stress. Site-specific materials, GCL products, and test conditions must be used to verify internal and interface strength of the proposed design.

SS does not swell as much as standard

(3) more applicable to steep slope

1350 W. Shure Drive • Arlington Heights, Illinois 60004-1440 • (847) 392-5800 • FAX (847) 506-6150
A wholly owned subsidiary of AMCOL International

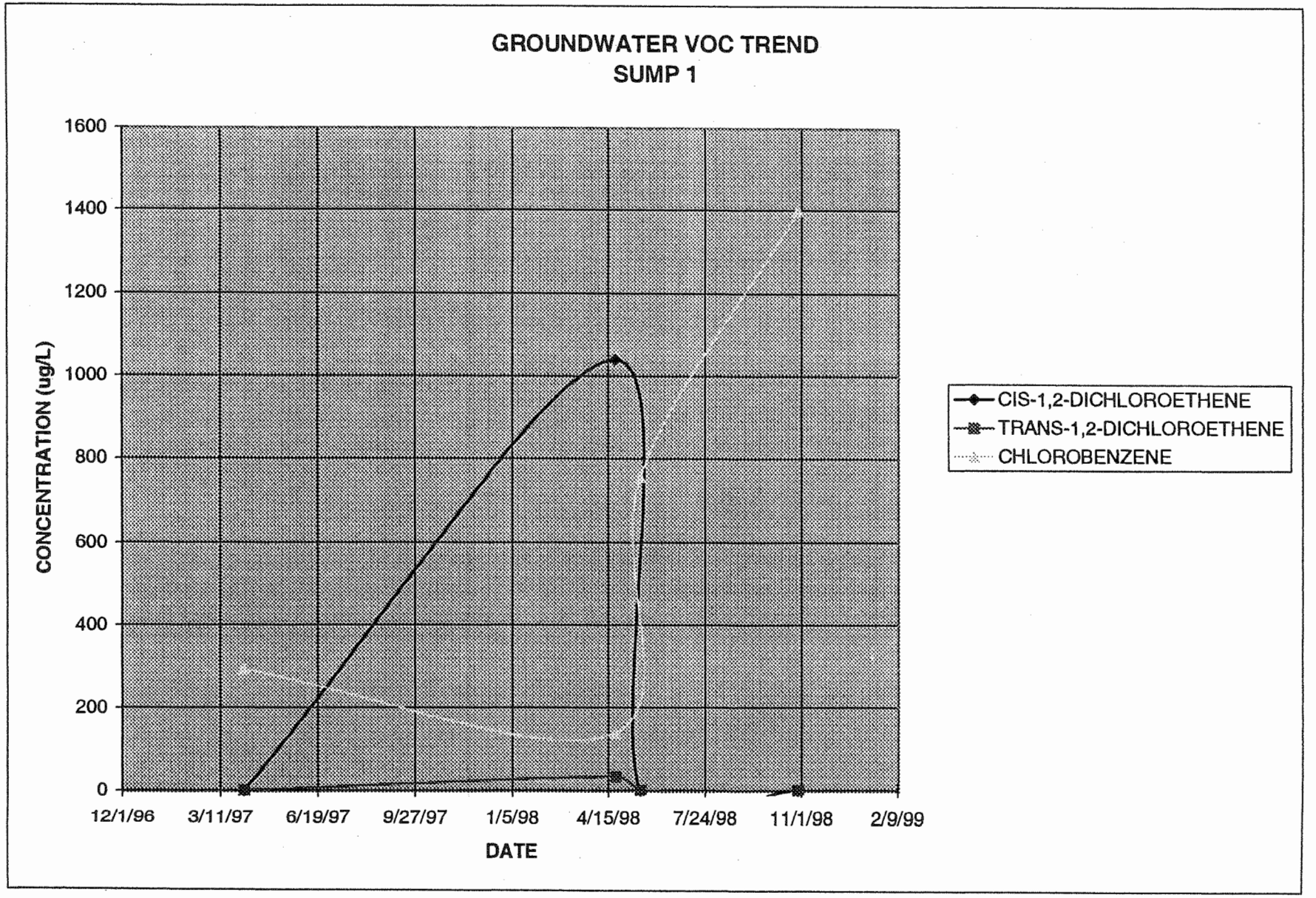
The information and data contained herein are believed to be accurate and reliable. CETCO makes no warranty of any kind and accepts no responsibility for the results obtained through application of this information.

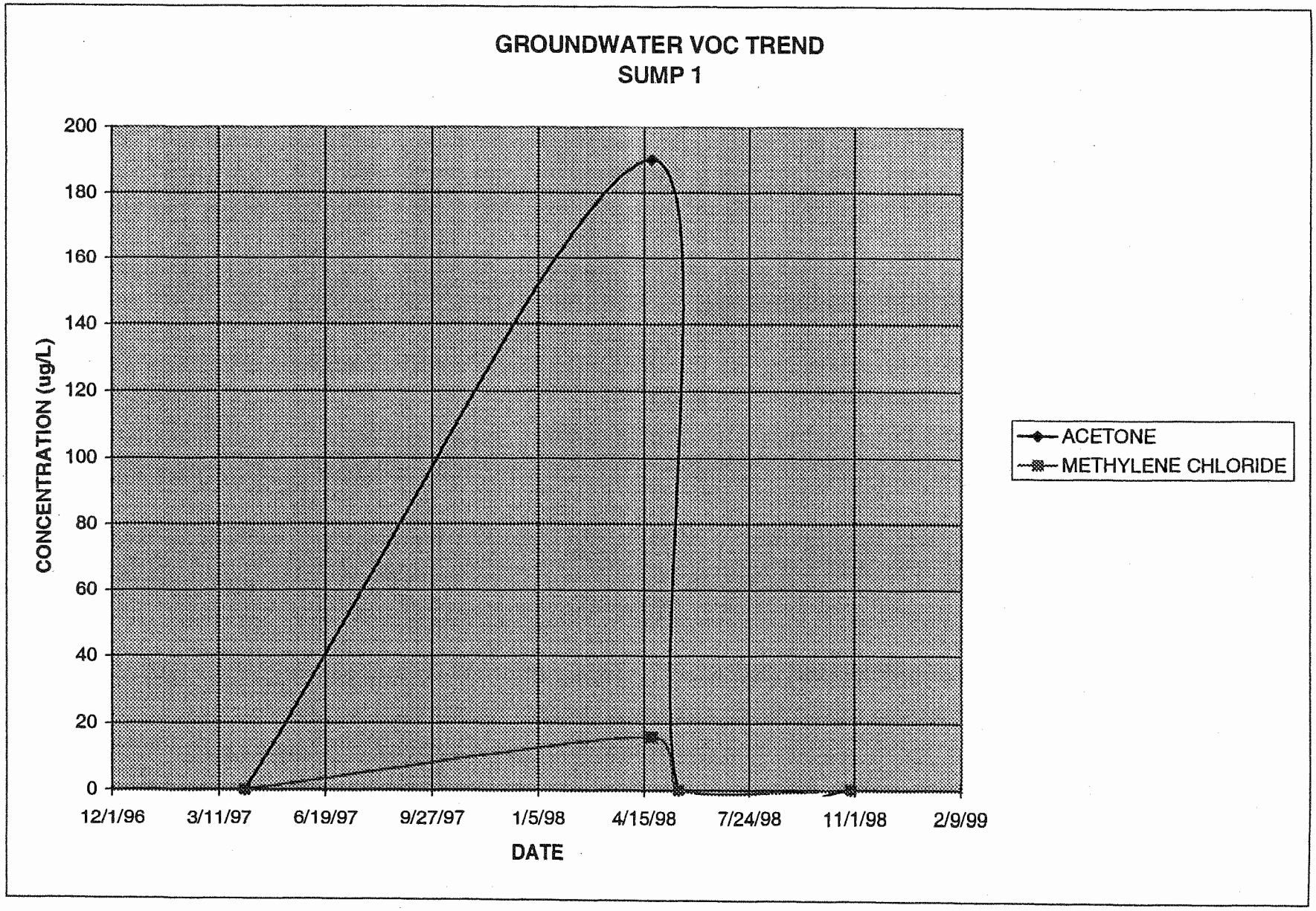
TABLE A-8 (CONT'D)
GROUNDWATER ANALYTICAL RESULTS
UOP AREAS 1, 1A, AND 5
REMEDIAL ACTION REPORT

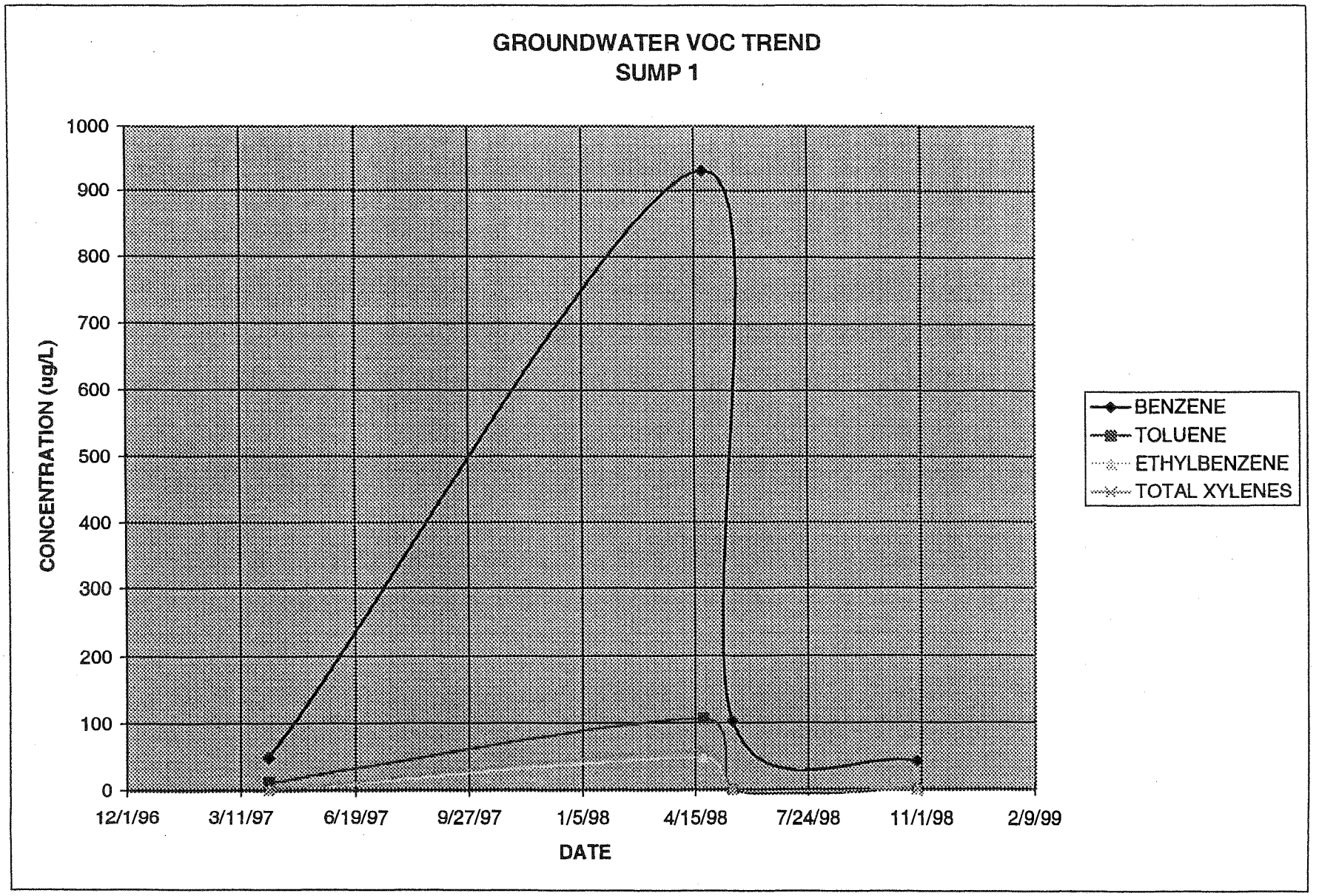
Field Sample No.	MW-41
Lab Sample No.	H772-87309
Depth (feet)	N/A
Type	AQUEOUS
Date Collected	9/30/98
Compound (ug/l)	
BNAs	
Fluoranthene	1.2
Benzidine	<20
Pyrene	1.0
Butylbenzylphthalate	<0.6
bis(2-Ethylhexyl)phthalate	5.0
3,3'-Dichlorobenzidine	<1.7
Benzo(a)anthracene	<0.2
Chrysene	<0.3
Benzo(b)fluroanthene	<0.1
Benzo(k)fluoranthene	<0.2
Benzo(a)pyrene	<0.2
Indeno(1,2,3-cd)pyrene	<0.2
Dibenz(a,h)anthracene	<0.2
Benzo(g,h,i)perylene	<0.1
1,2,4,5-Tetrachlorobenzene	<21
Pentachlorobenzene	<21
PCBs	
Aroclor 1016	<0.30
Aroclor 1221	<0.30
Aroclor 1232	<0.40
Aroclor 1242	<0.20
Aroclor 1248	0.39
Aroclor 1254	<0.40
Aroclor 1260	<0.20
DISSOLVED PCBs	(1)
Aroclor 1016	<0.30
Aroclor 1221	<0.30
Aroclor 1232	<0.40
Aroclor 1242	<0.20
Aroclor 1248	<0.30
Aroclor 1254	<0.40
Aroclor 1260	<0.20

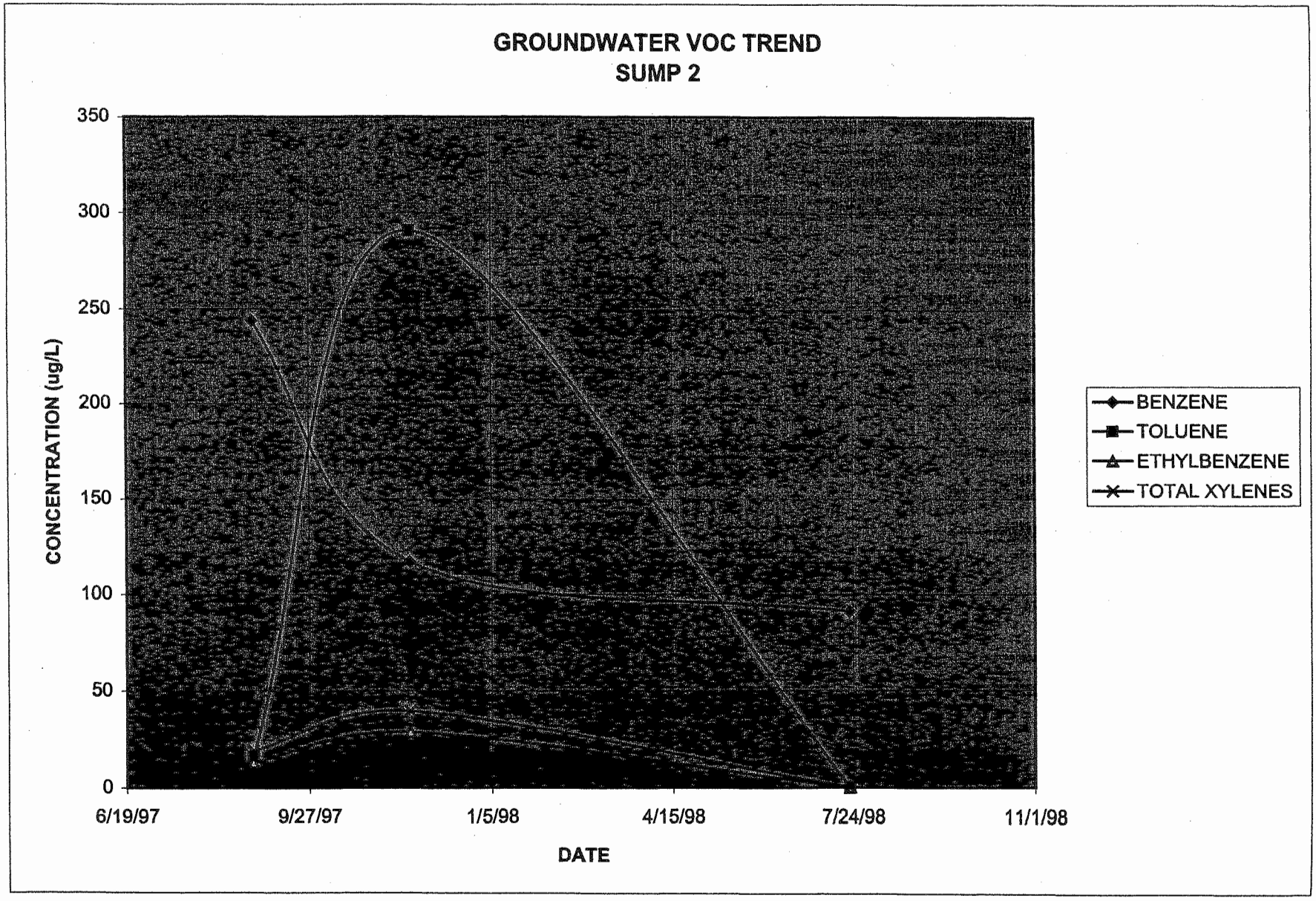
Notes:
Analyses performed by Envirotech Research, Inc.;
NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
(J) - Indicates an estimated value. The flag is used if the compound is detected below the Reported Limit.
EPA Method 625 - Base Neutral and Acid Extractable Compounds (BNAs)
EPA Method 608 - Polychlorinated Biphenyl Compounds (PCBs)
(1) the Lab Sample No. for this analysis is H772-87319

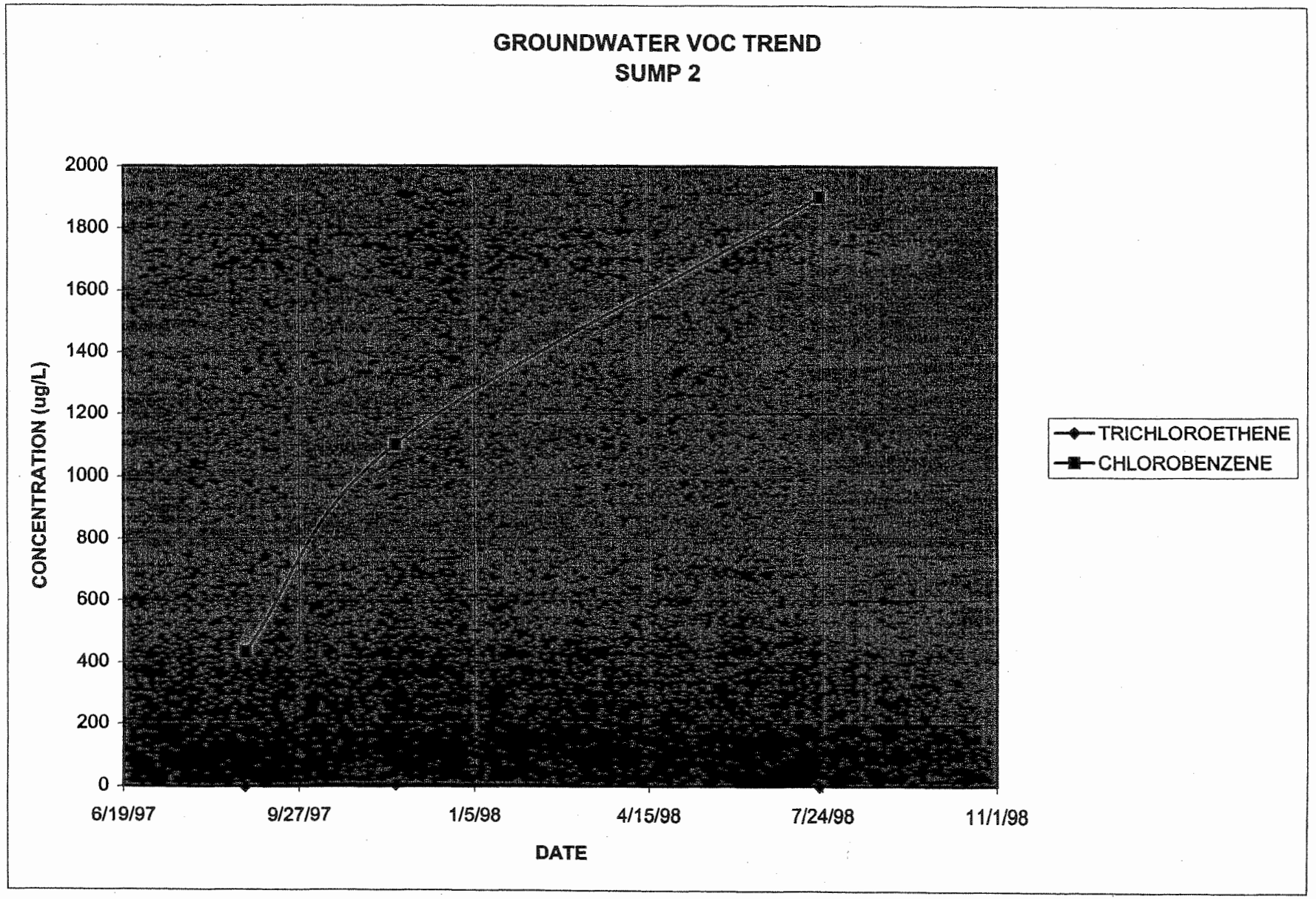
VOC TREND GRAPHS

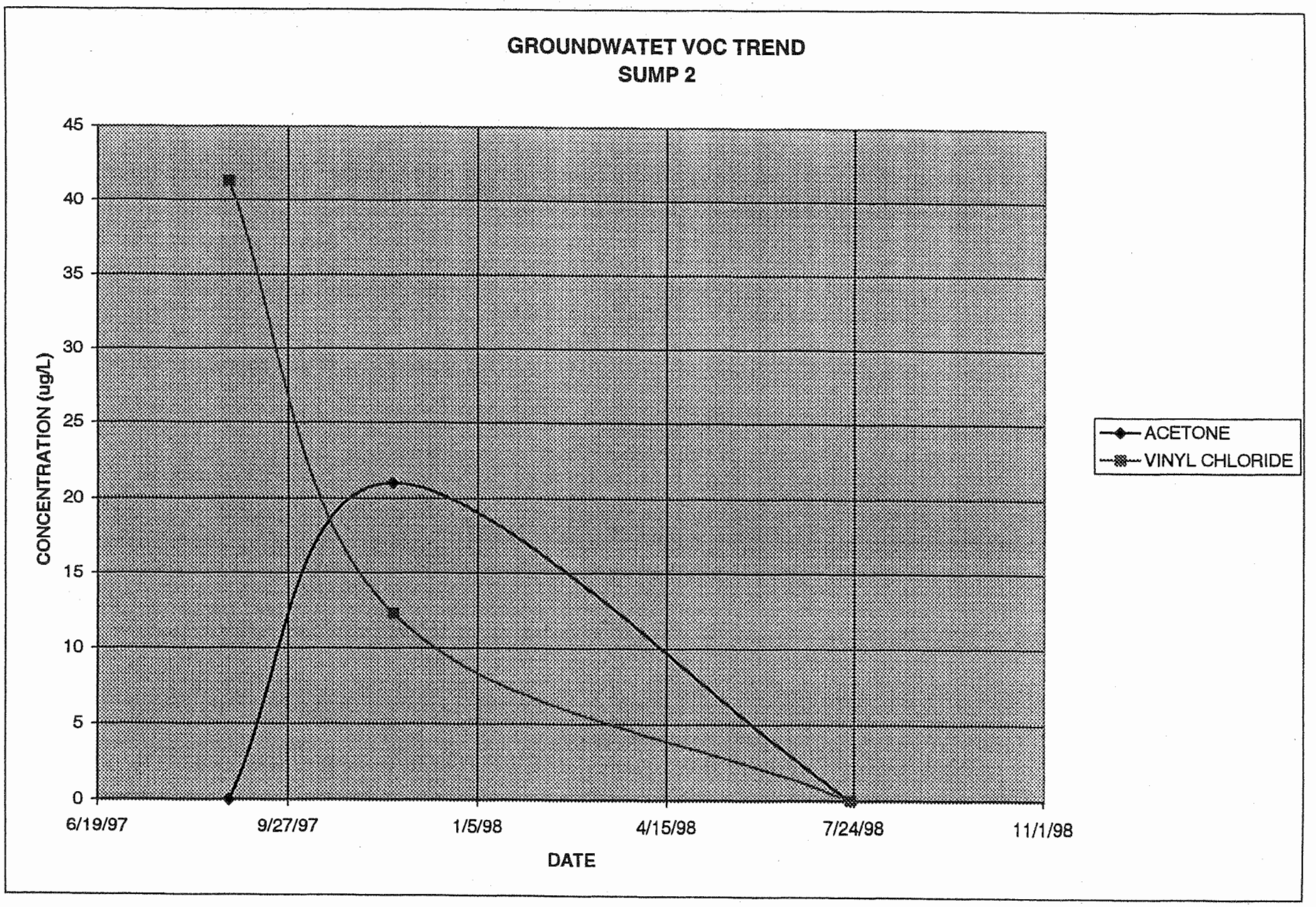

GROUNDWATER VOC TREND
SUMP 1
CONCENTRATION (ug/L)
1600
1400
1200
1000
800
600
400
200
0
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
2/9/99
DATE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
CHLOROBENZENE

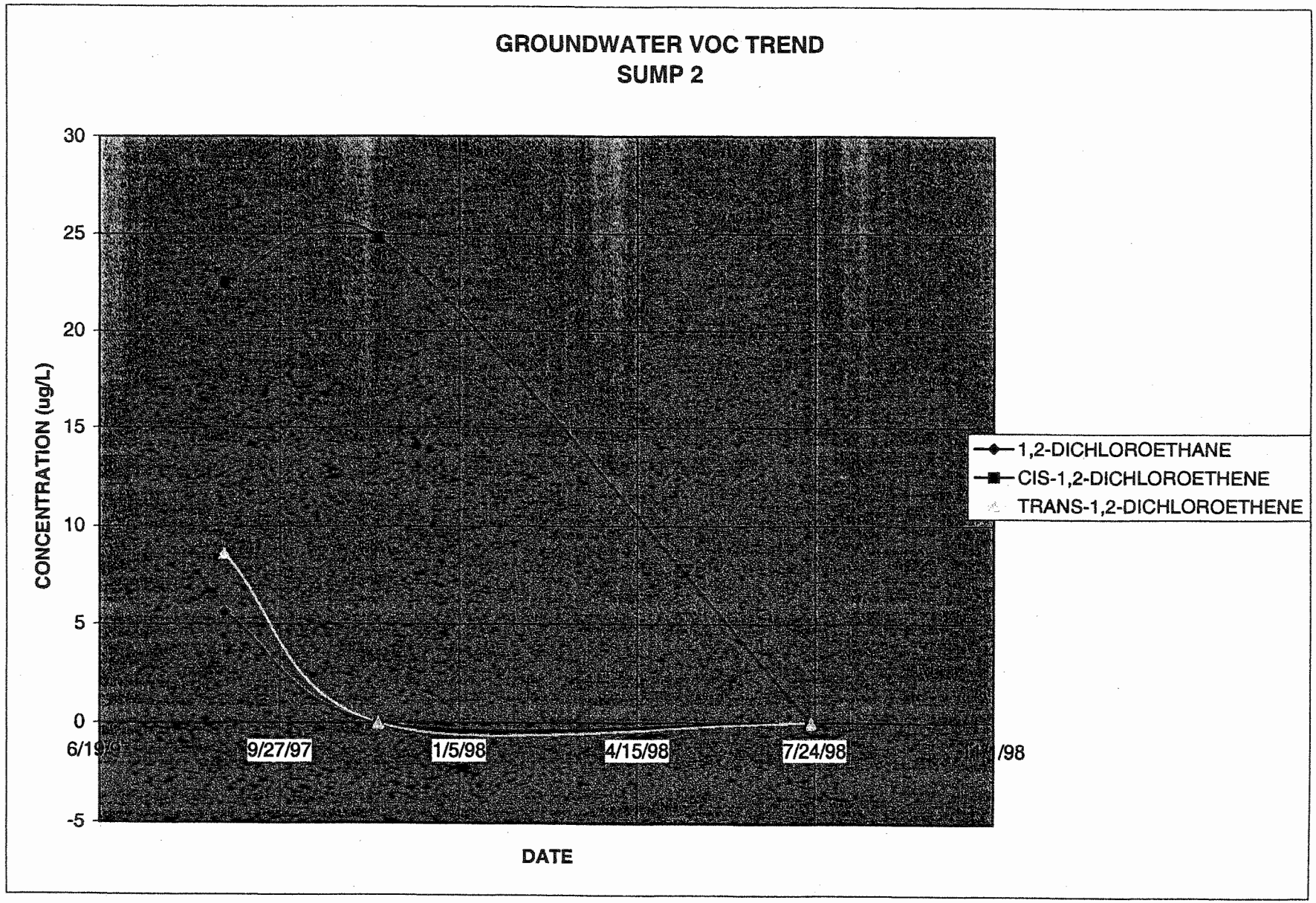

GROUNDWATER VOC TREND
SUMP 1
CONCENTRATION (ug/L)
200
180
160
140
120
100
80
60
40
20
0
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
2/9/99
DATE
ACETONE
METHYLENE CHLORIDE

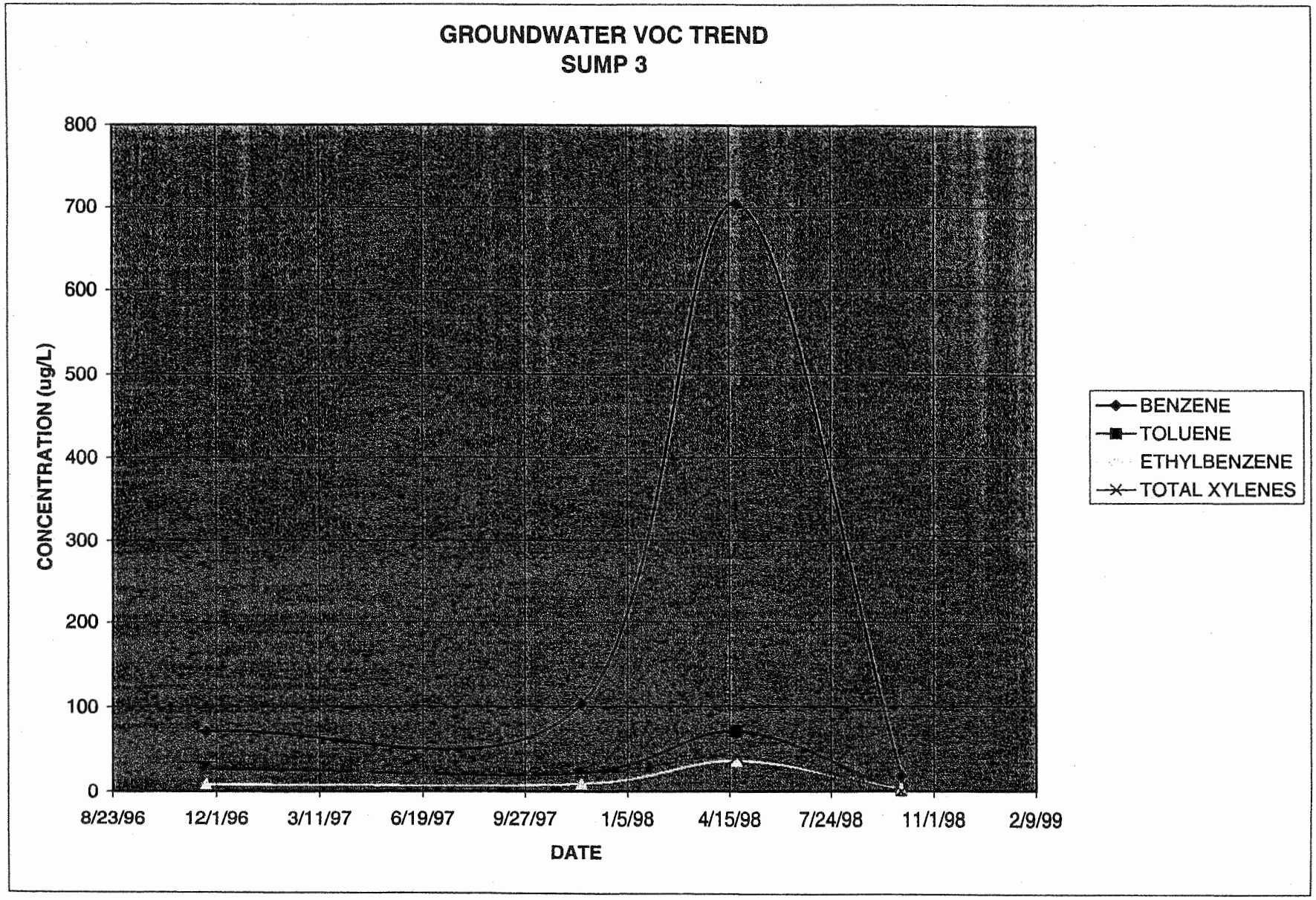

GROUNDWATER VOC TREND
SUMP 1
CONCENTRATION (ug/L)
1000
900
800
700
600
500
400
300
200
100
0
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
2/9/99
DATE
BENZENE
TOLUENE
ETHYLBENZENE
TOTAL XYLENES

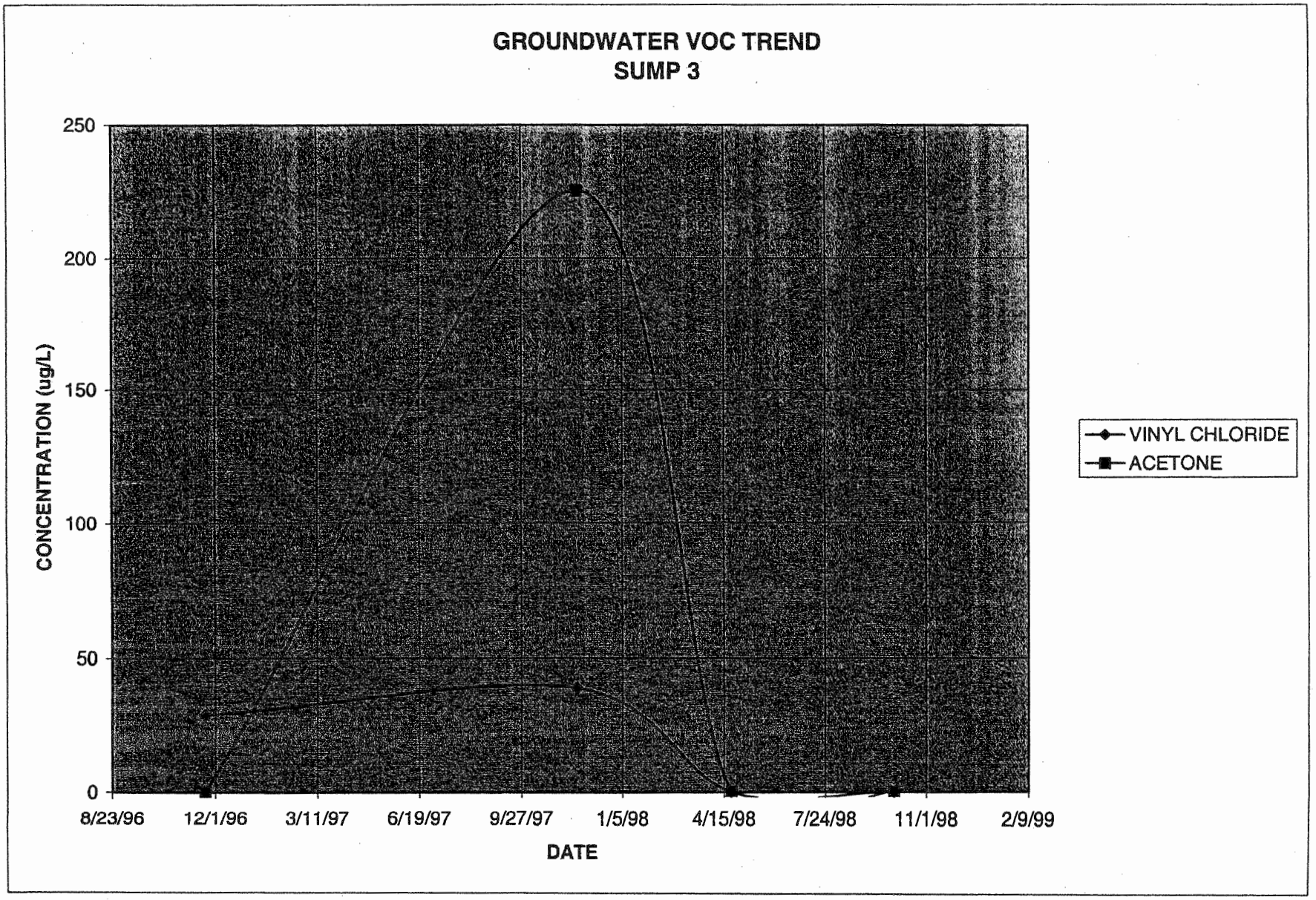

GROUNDWATER VOC TREND
SUMP 2
CONCENTRATION (ug/L)
350
300
250
200
150
100
50
0
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
BENZENE
TOLUENE
ETHYLBENZENE
TOTAL XYLENES

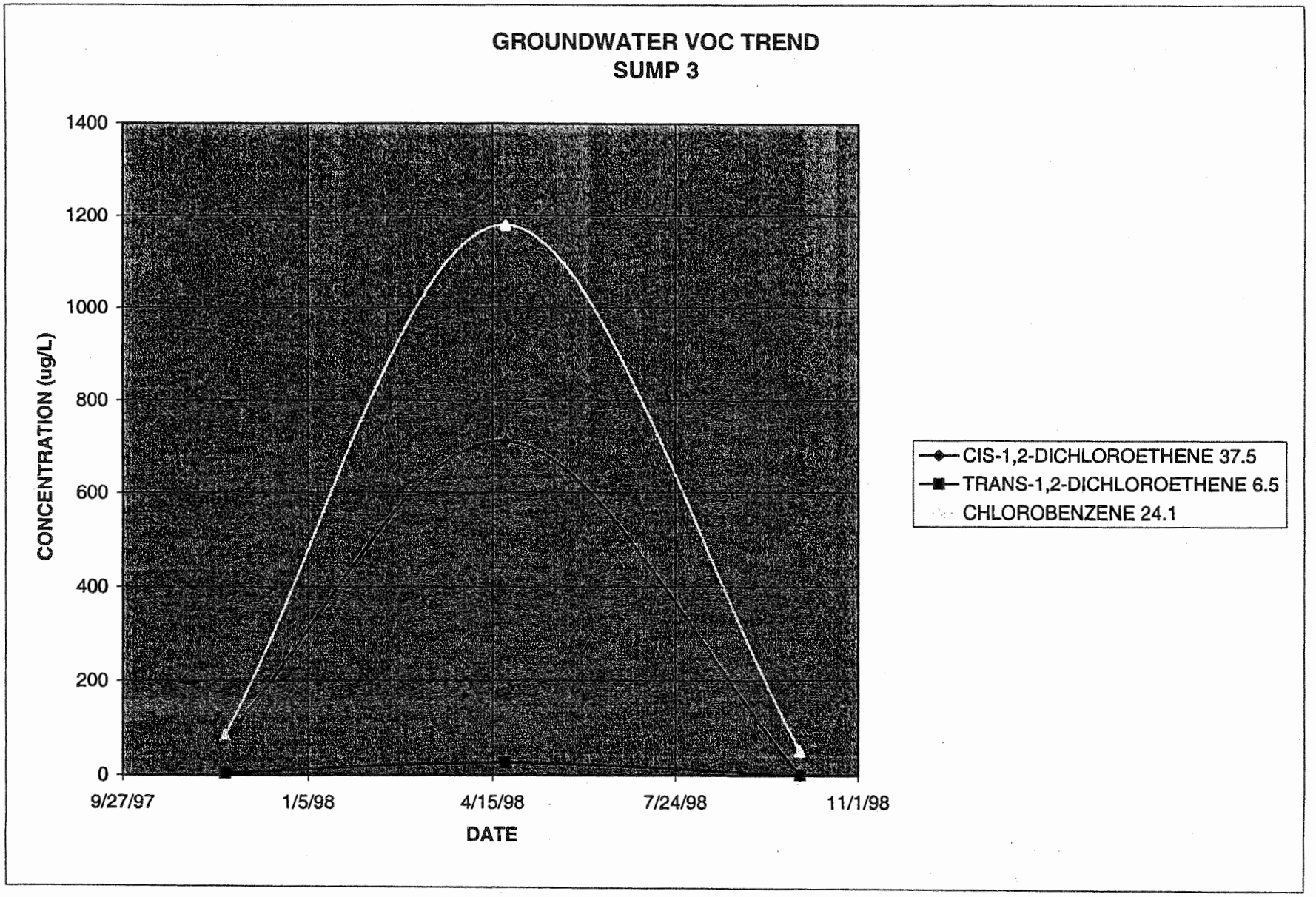

GROUNDWATER VOC TREND
SUMP 2
CONCENTRATION (ug/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
TRICHLOROETHENE
CHLOROBENZENE

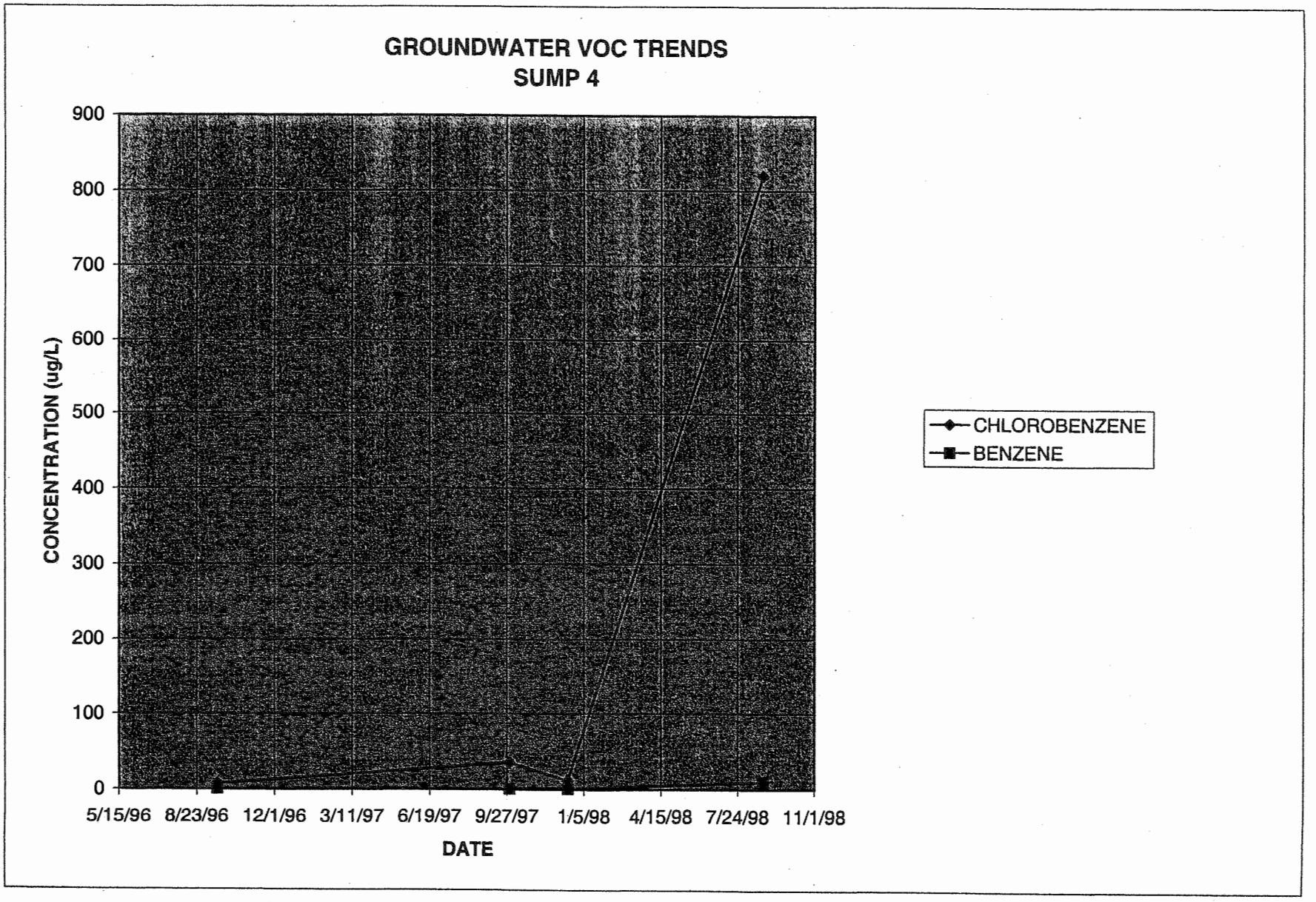

GROUNDWATET VOC TREND
SUMP 2
CONCENTRATION (ug/L)
45
40
35
30
25
20
15
10
5
0
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
ACETONE
VINYL CHLORIDE

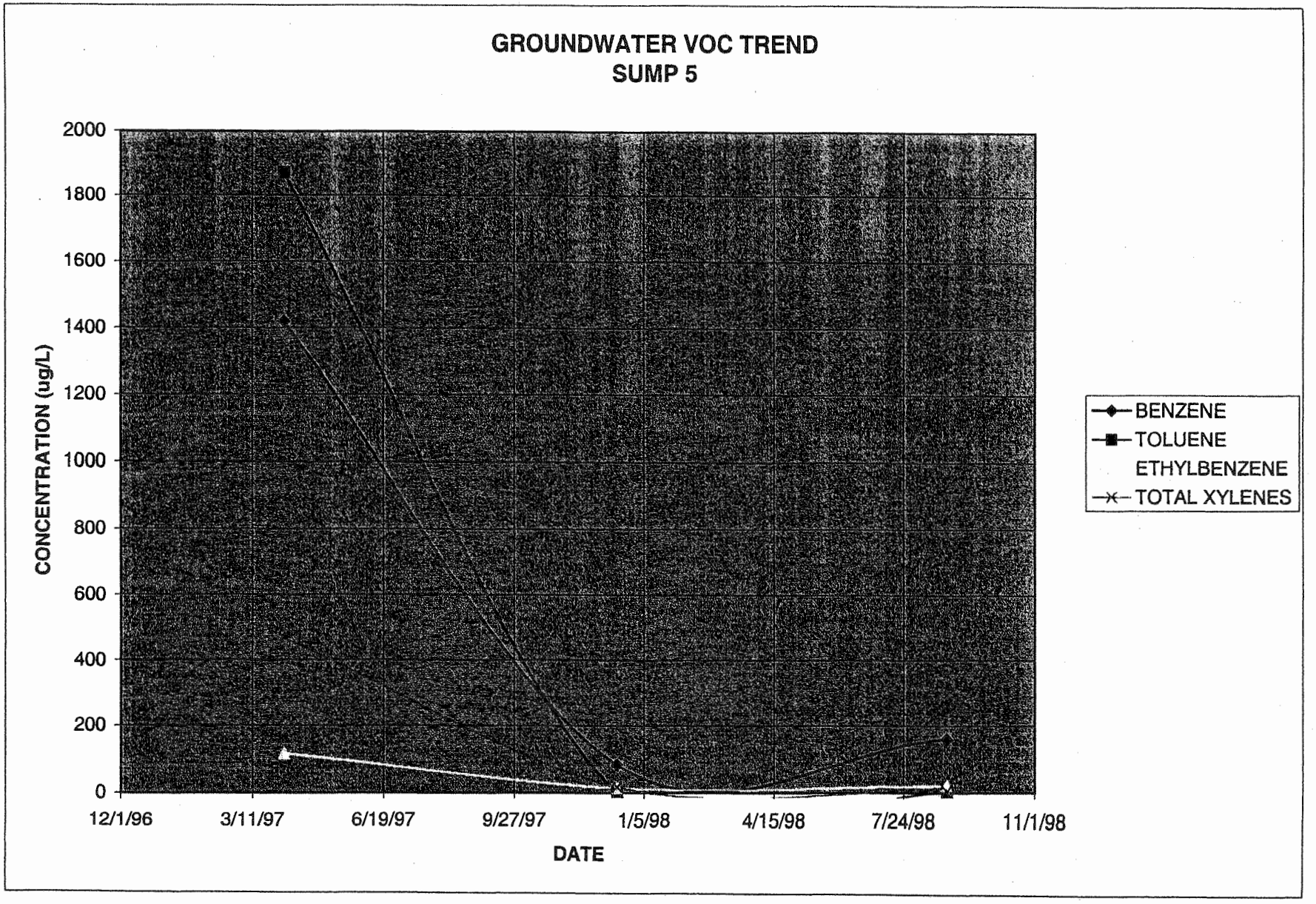

GROUNDWATER VOC TREND
SUMP 2
CONCENTRATION (ug/L)
30
25
20
15
10
5
0
-5
6/19/9
9/27/97
1/5/98
4/15/98
7/24/98
/98
DATE
1,2-DICHLOROETHANE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE

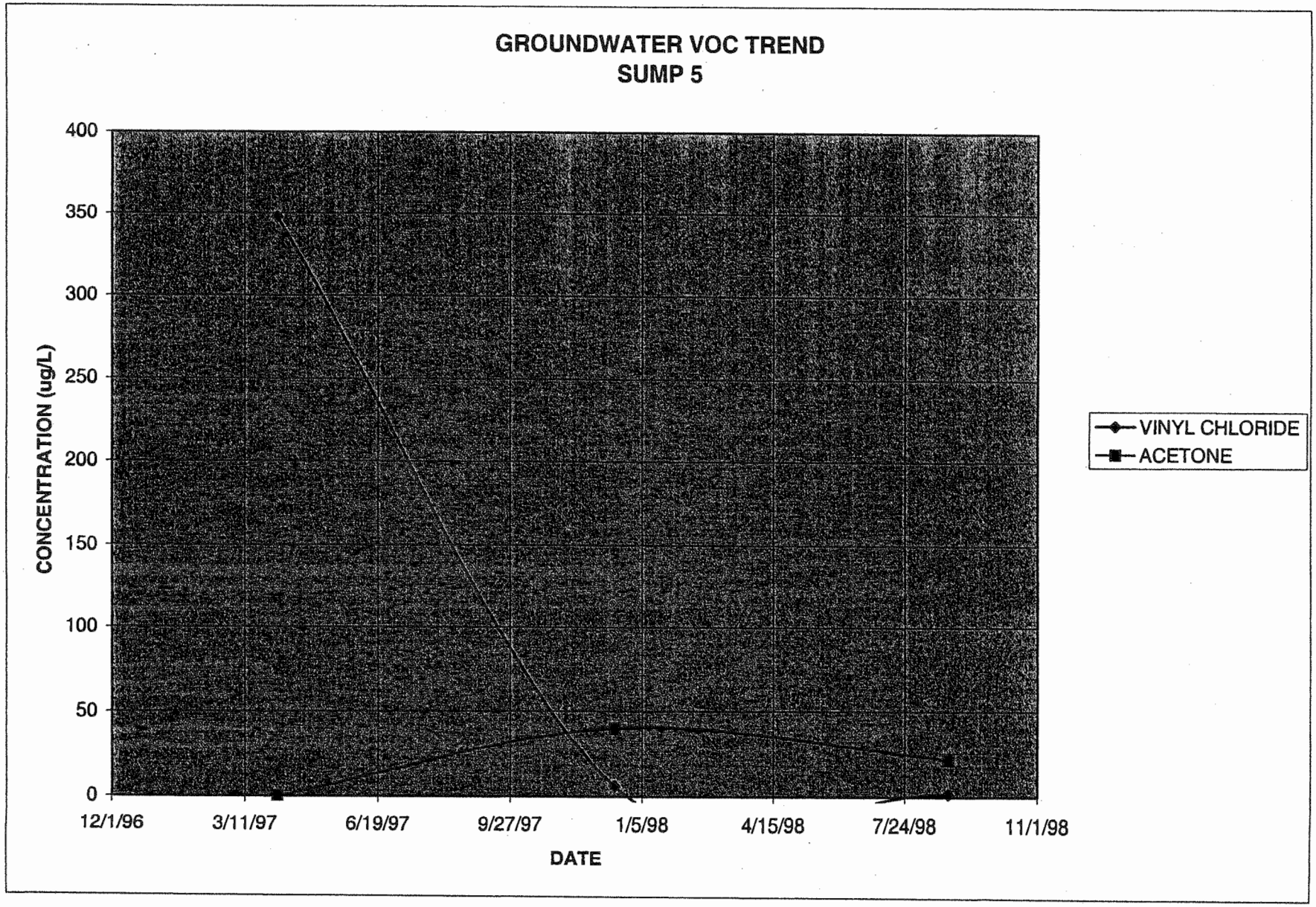

GROUNDWATER VOC TREND
SUMP 3
CONCENTRATION (ug/L)
800
700
600
500
400
300
200
100
0
8/23/96
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
2/9/99
DATE
BENZENE
TOLUENE
ETHYLBENZENE
TOTAL XYLENES

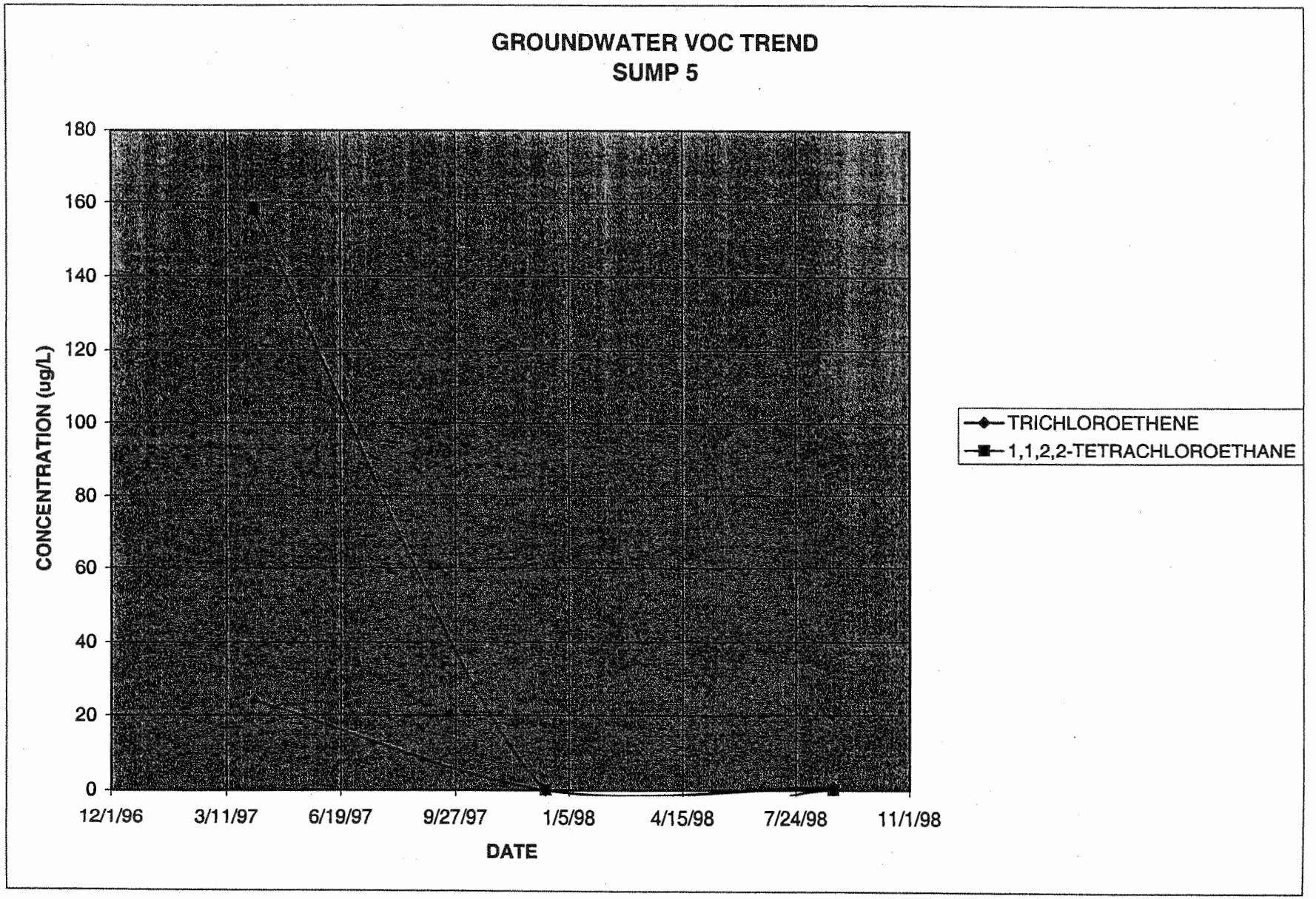

GROUNDWATER VOC TREND
SUMP 3
CONCENTRATION (ug/L)
250
200
150
100
50
0
8/23/96
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
2/9/99
DATE
VINYL CHLORIDE
ACETONE

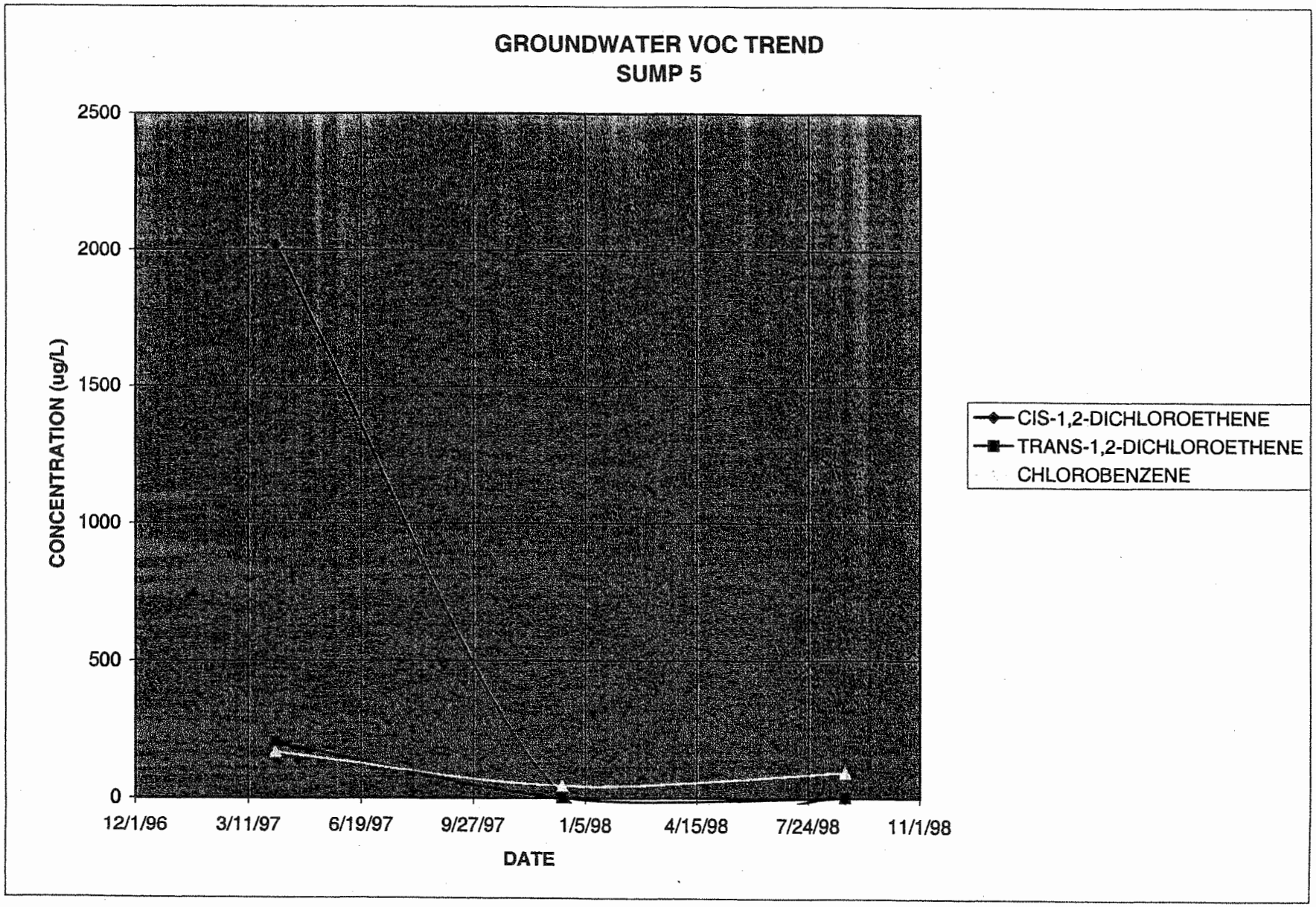

GROUNDWATER VOC TREND
SUMP 3
CONCENTRATION (ug/L)
1400
1200
1000
800
600
400
200
0
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
CIS-1,2-DICHLOROETHENE 37.5
TRANS-1,2-DICHLOROETHENE 6.5
CHLOROBENZENE 24.1

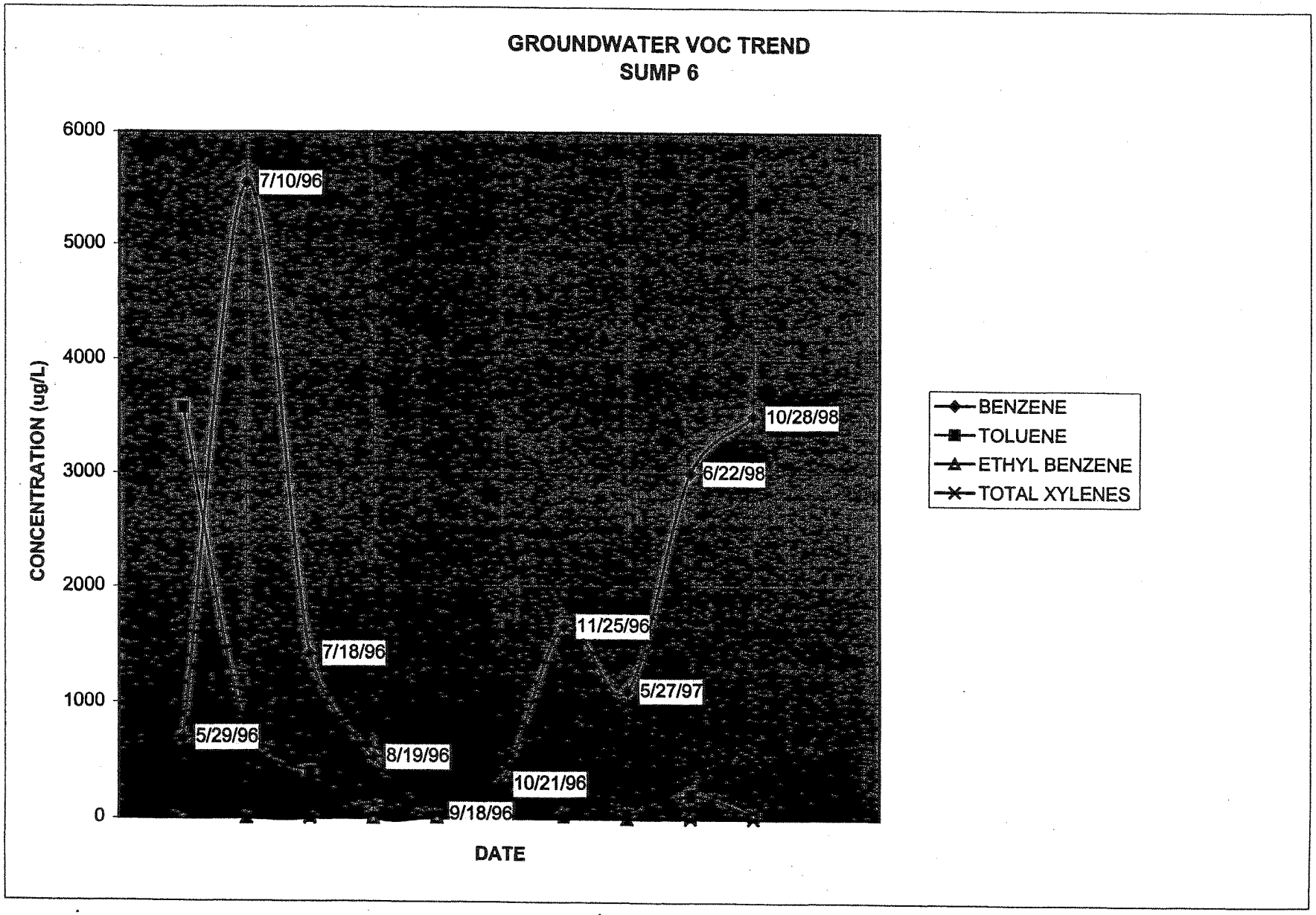

GROUNDWATER VOC TRENDS
SUMP 4
CONCENTRATION (ug/L)
900
800
700
600
500
400
300
200
100
0
5/15/96
8/23/96
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
CHLOROBENZENE
BENZENE

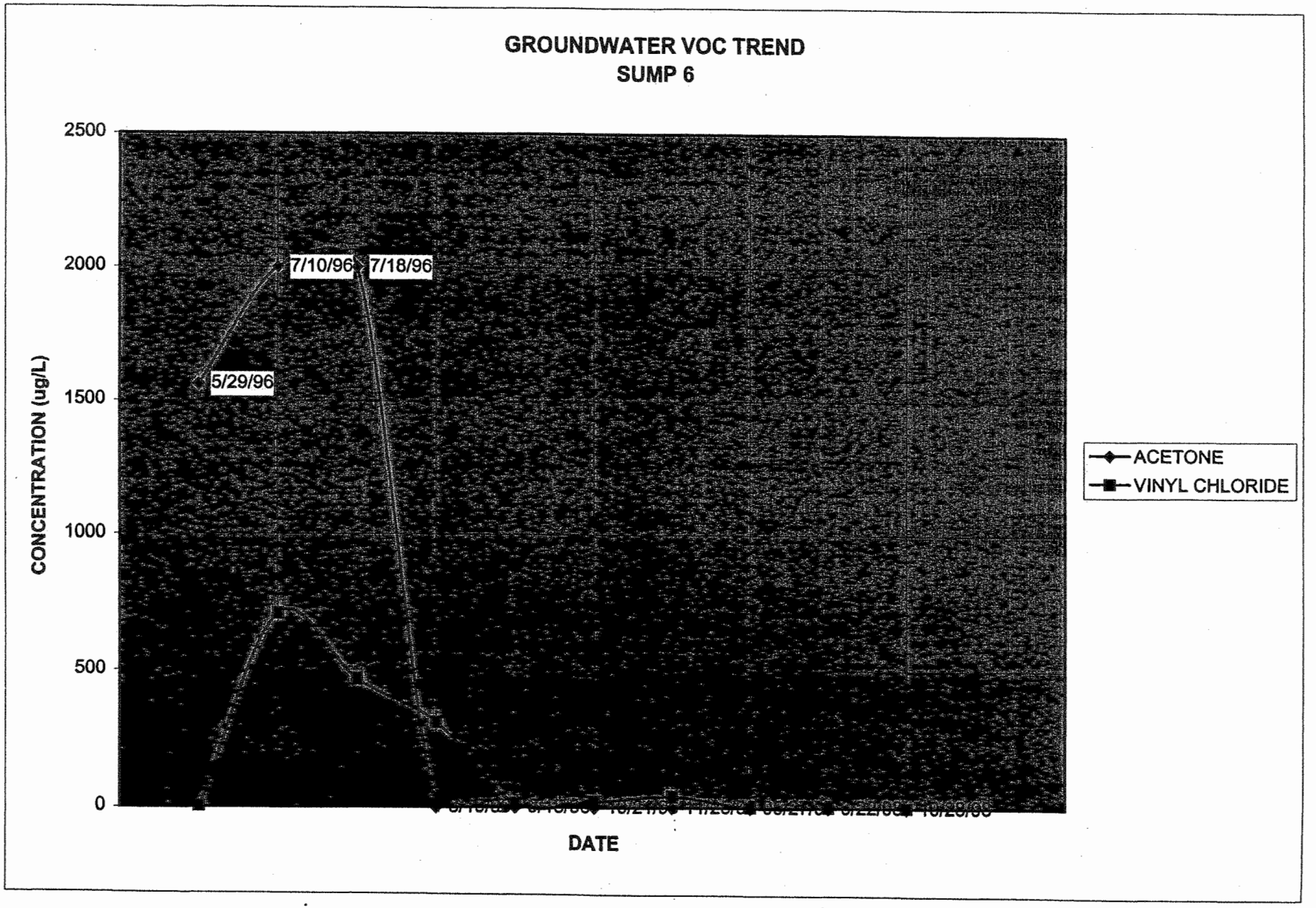

GROUNDWATER VOC TREND
SUMP 5
CONCENTRATION (ug/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
BENZENE
TOLUENE
ETHYLBENZENE
TOTAL XYLENES

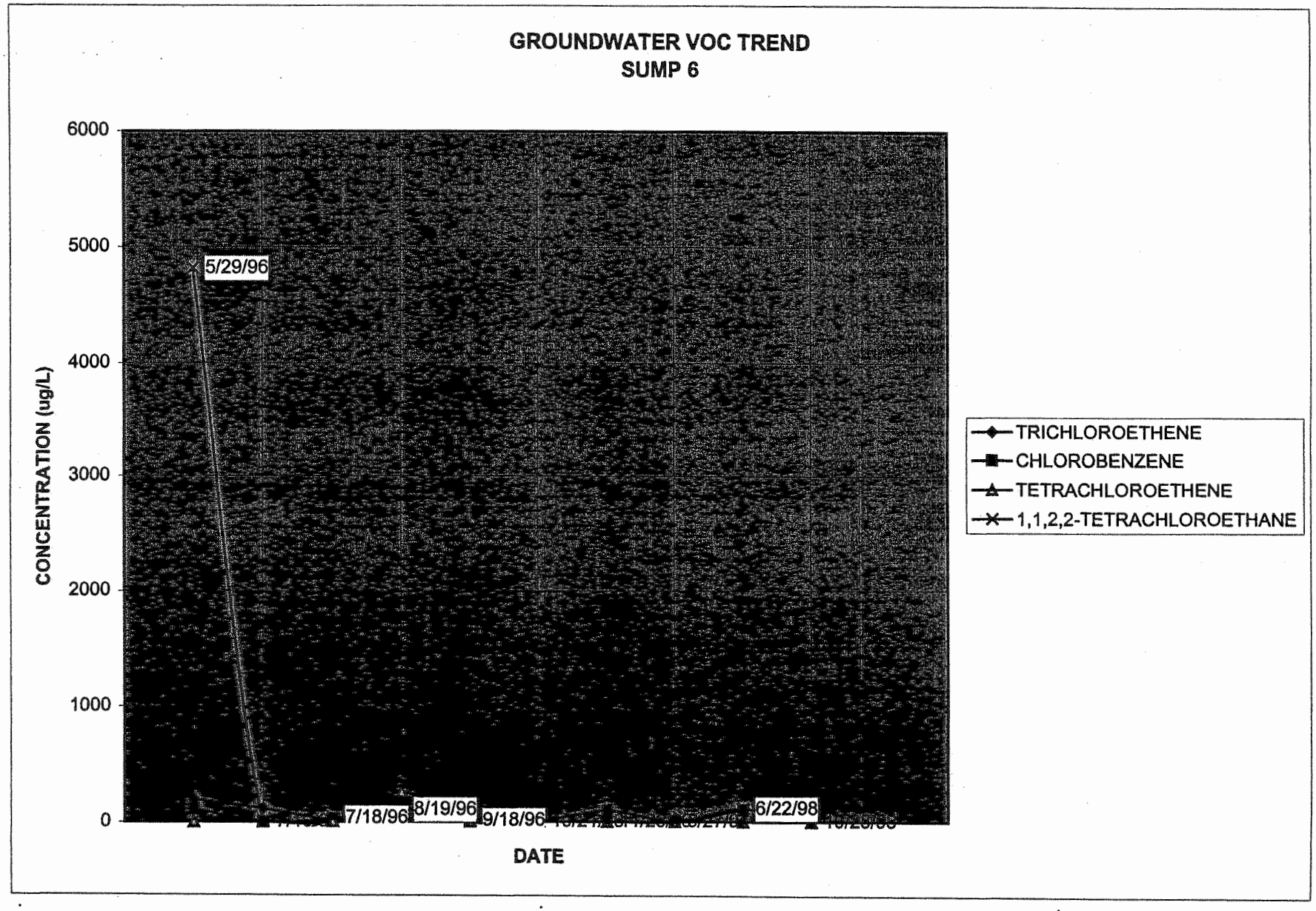

GROUNDWATER VOC TREND
SUMP 5
CONCENTRATION (ug/L)
400
350
300
250
200
150
100
50
0
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
VINYL CHLORIDE
ACETONE

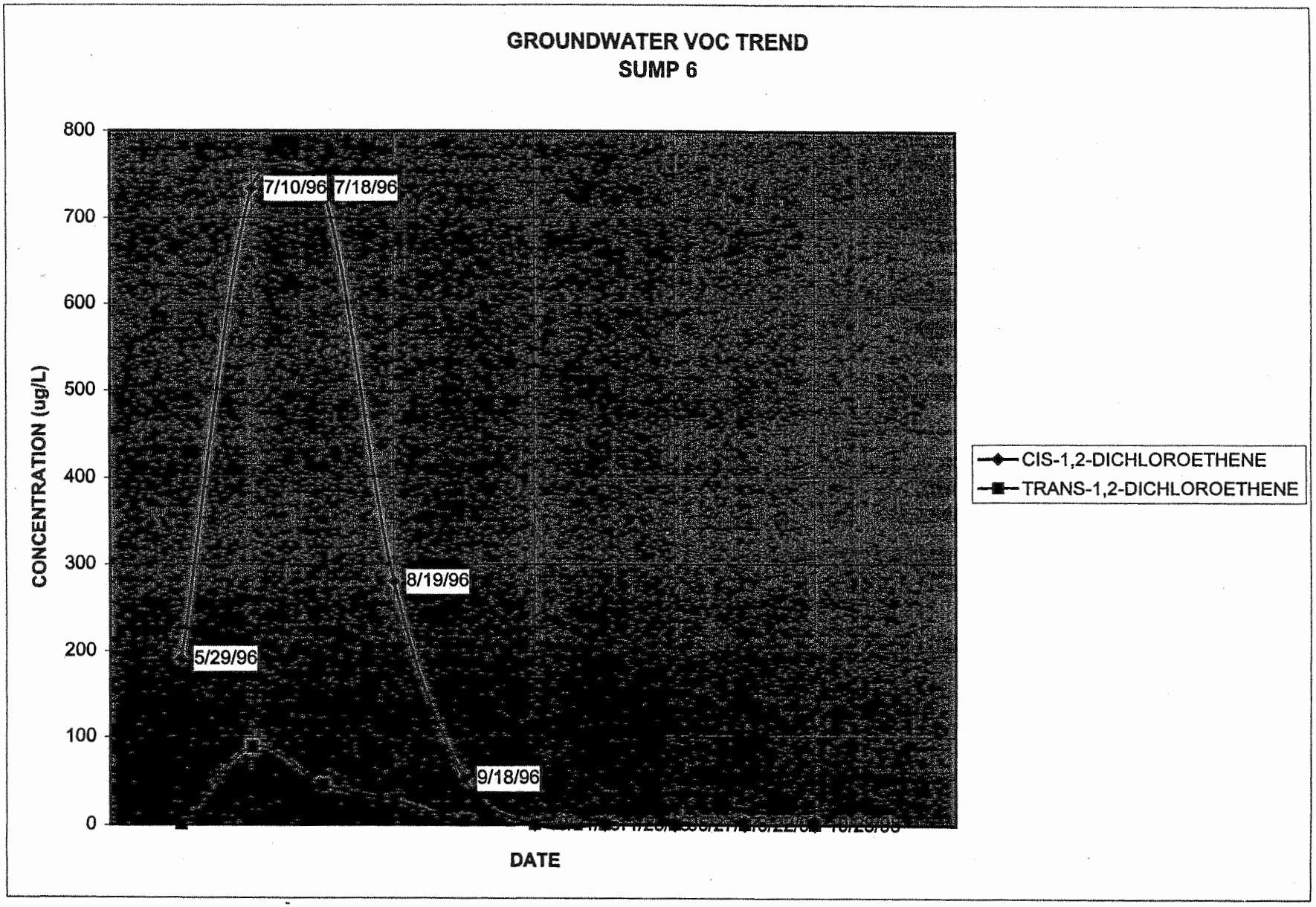

GROUNDWATER VOC TREND
SUMP 5
CONCENTRATION (ug/L)
180
160
140
120
100
80
60
40
20
0
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
TRICHLOROETHENE
1,1,2,2-TETRACHLOROETHANE

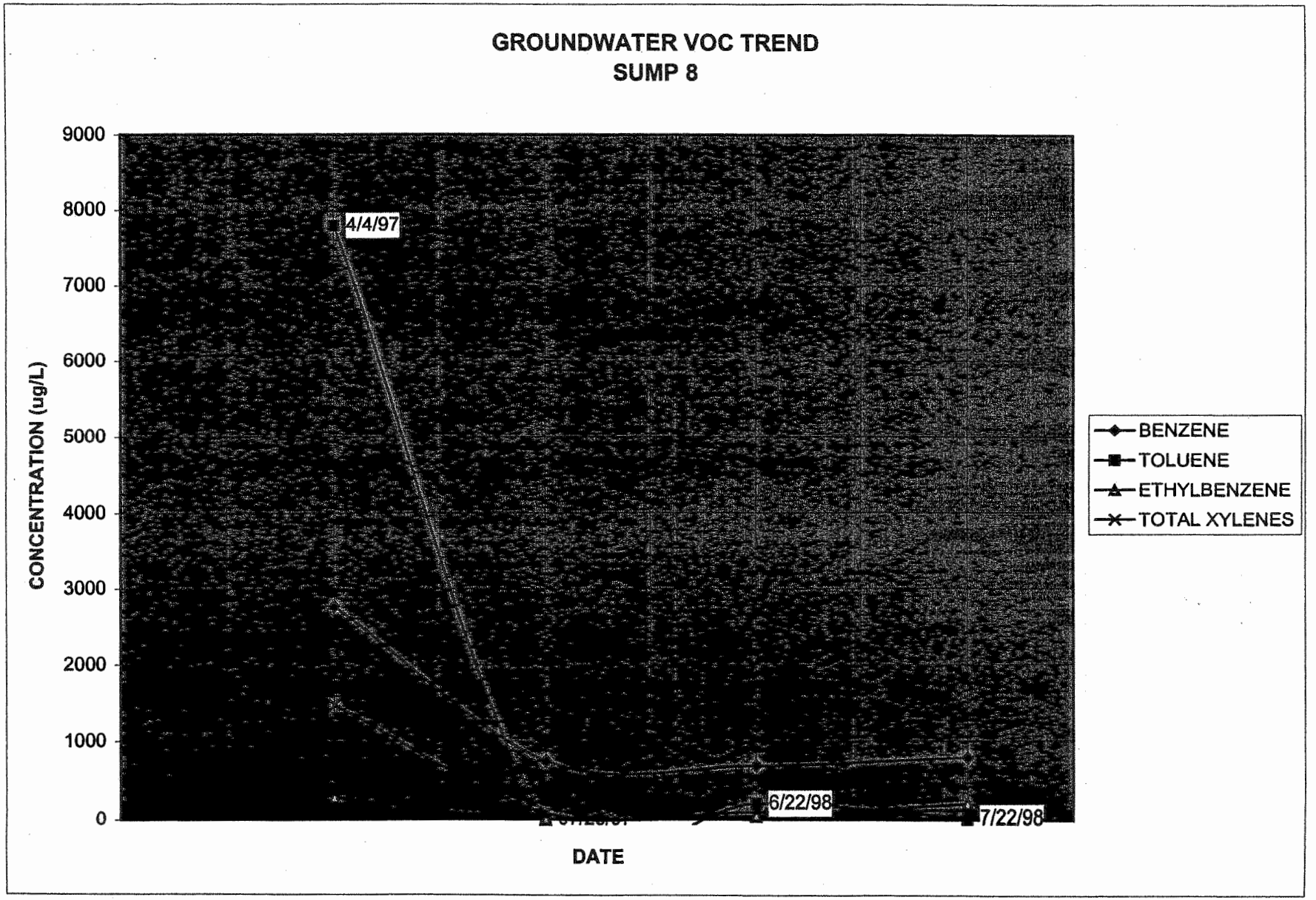

GROUNDWATER VOC TREND
SUMP 5
CONCENTRATION (ug/L)
2500
2000
1500
1000
500
0
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
CHLOROBENZENE

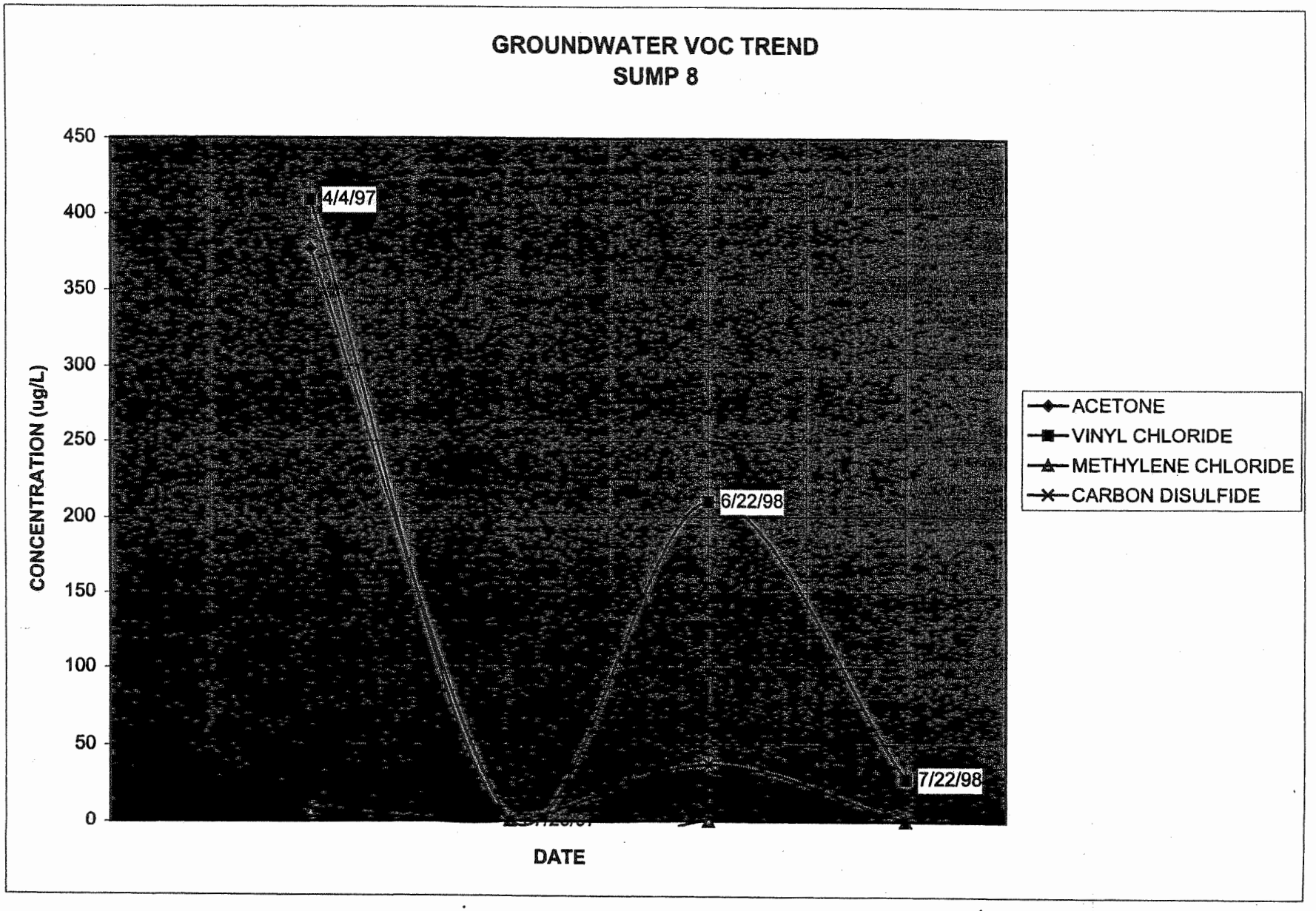

GROUNDWATER VOC TREND
SUMP 6
CONCENTRATION (ug/L)
6000
5000
4000
3000
2000
1000
0
DATE
7/10/96
5/29/96
7/18/96
8/19/96
9/18/96
10/21/96
11/25/96
5/27/97
6/22/98
10/28/98
BENZENE
TOLUENE
ETHYL BENZENE
TOTAL XYLENES

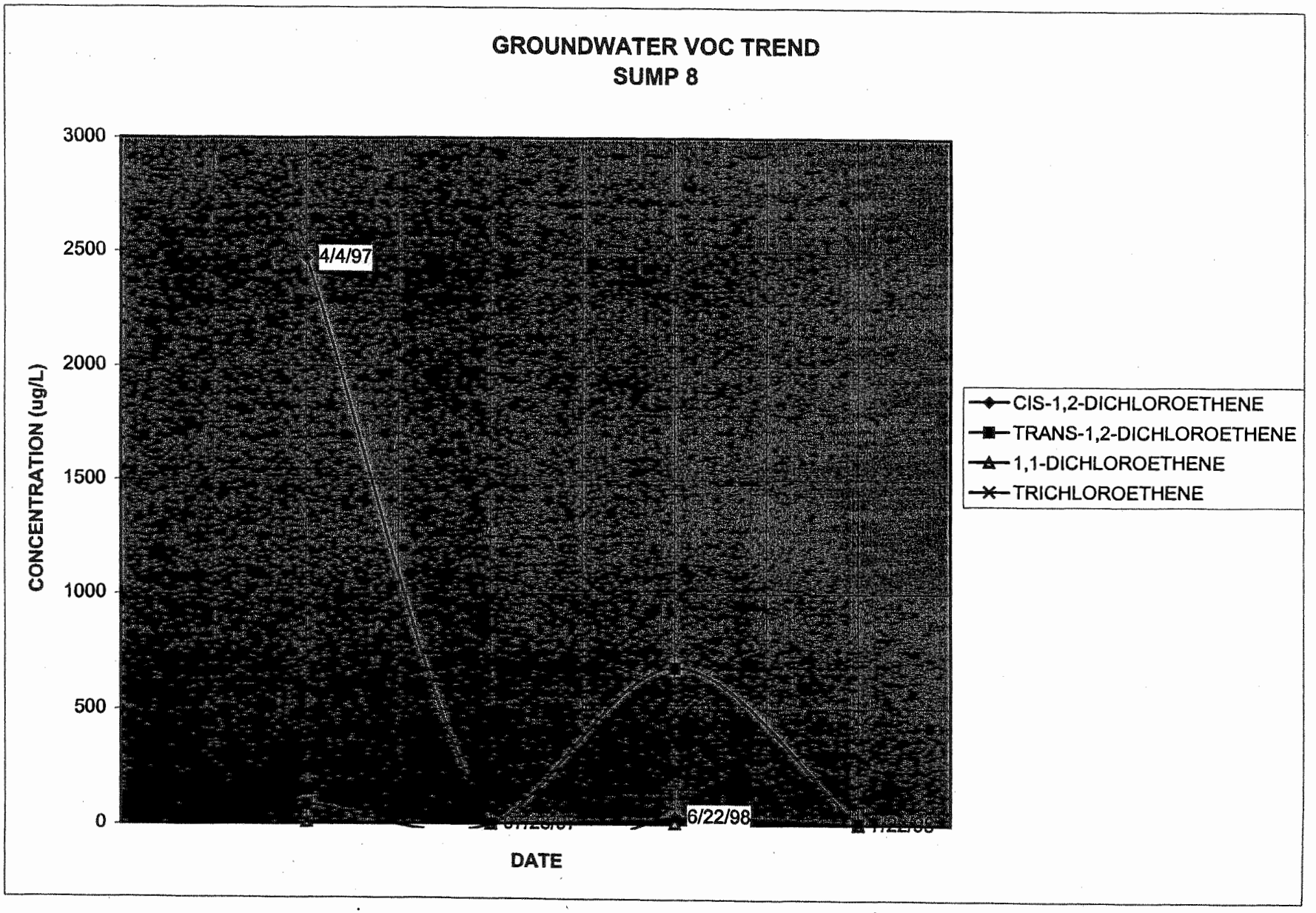

GROUNDWATER VOC TREND
SUMP 6
CONCENTRATION (ug/L)
2500
2000
1500
1000
500
0
5/29/96
7/10/96
7/18/96
DATE
ACETONE
VINYL CHLORIDE

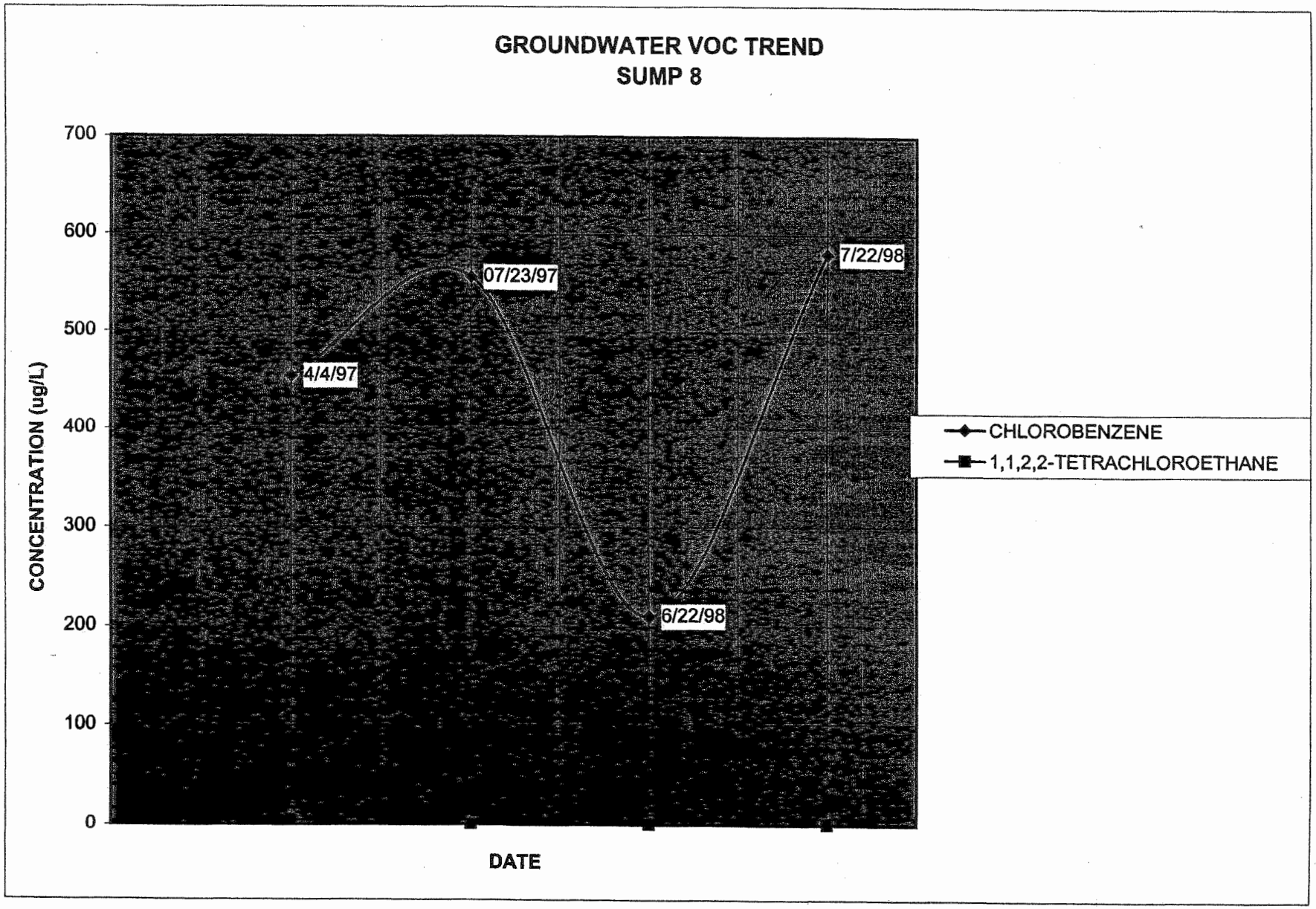

GROUNDWATER VOC TREND
SUMP 6
CONCENTRATION (ug/L)
6000
5000
4000
3000
2000
1000
0
5/29/96
7/18/96
8/19/96
9/18/96
6/22/98
DATE
TRICHLOROETHENE
CHLOROBENZENE
TETRACHLOROETHENE
1,1,2,2-TETRACHLOROETHANE

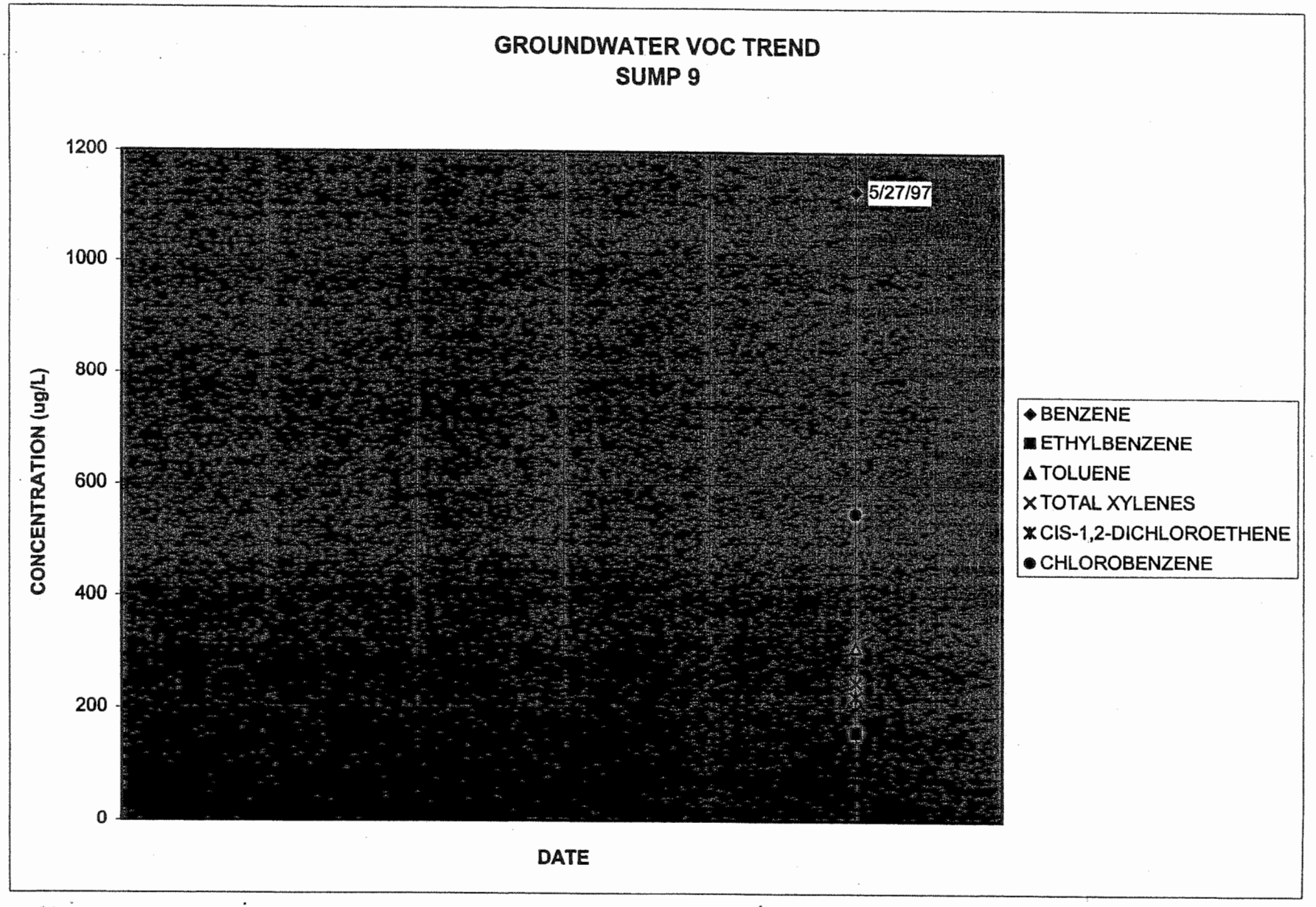

GROUNDWATER VOC TREND
SUMP 6
CONCENTRATION (ug/L)
800
700
600
500
400
300
200
100
0
7/10/96
7/18/96
8/19/96
5/29/96
9/18/96
DATE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE

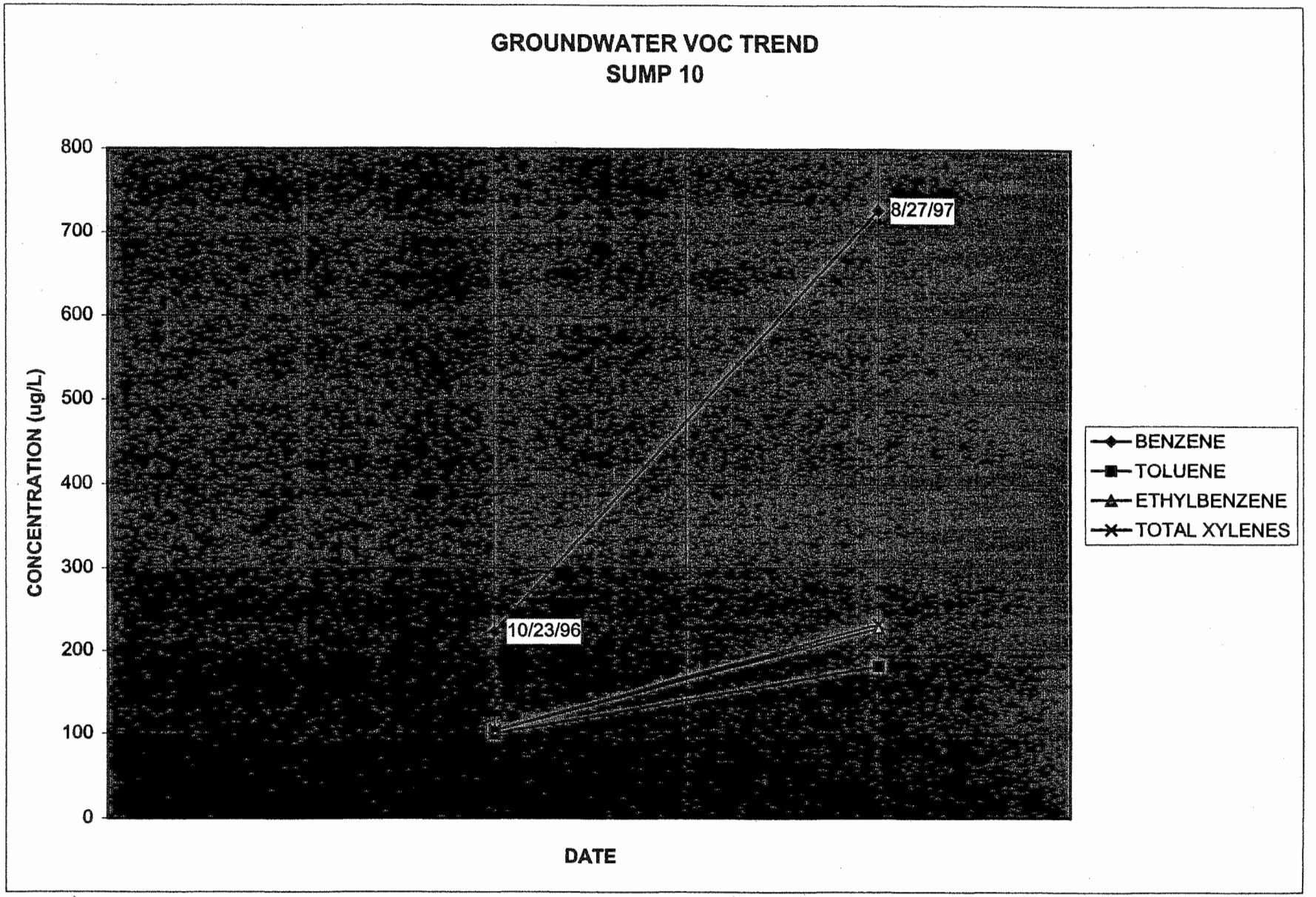

GROUNDWATER VOC TREND
SUMP 8
CONCENTRATION (ug/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
4/4/97
6/22/98
7/22/98
DATE
BENZENE
TOLUENE
ETHYLBENZENE
TOTAL XYLENES

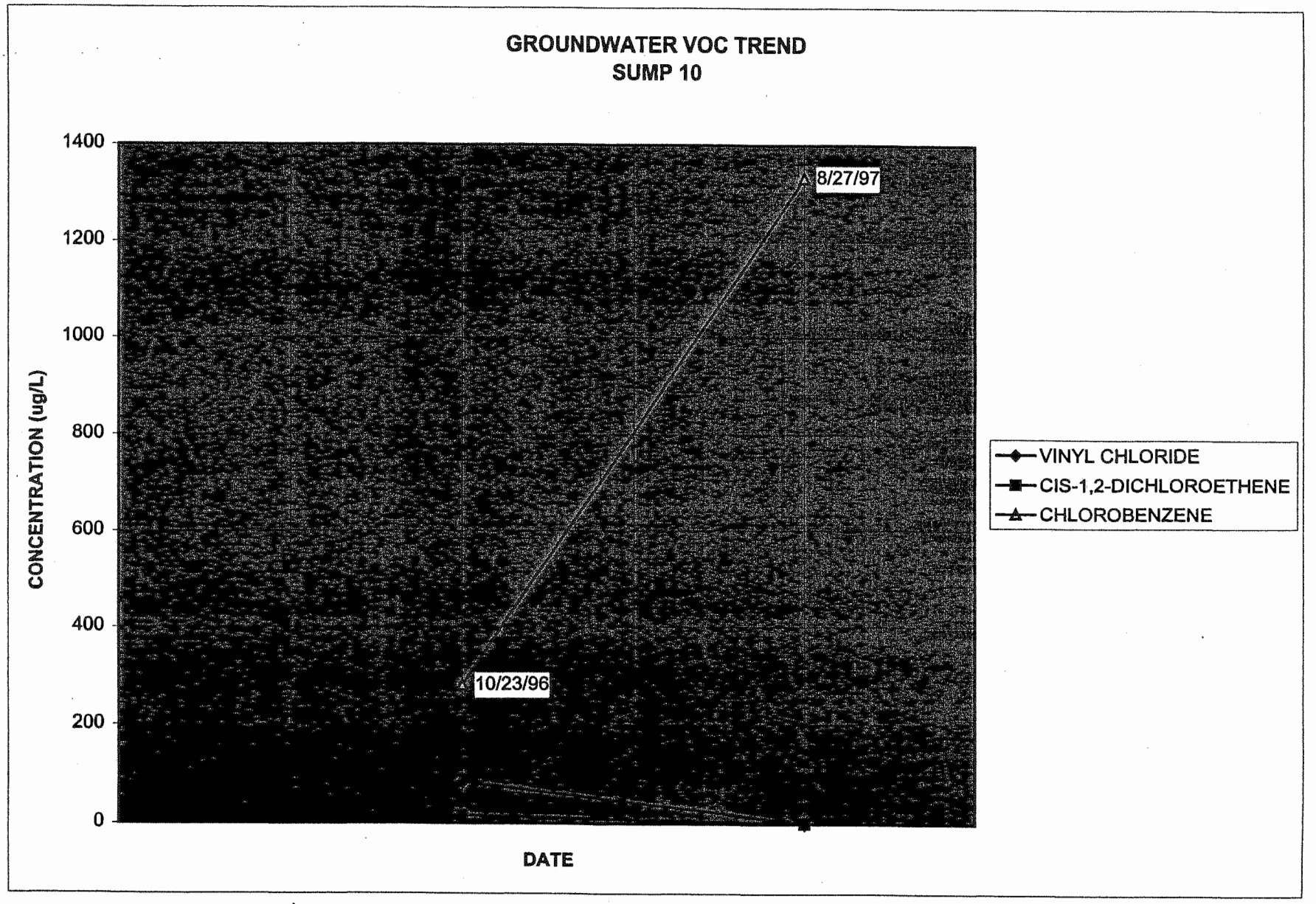

GROUNDWATER VOC TREND
SUMP 8
CONCENTRATION (ug/L)
450
400
350
300
250
200
150
100
50
0
4/4/97
6/22/98
7/22/98
DATE
ACETONE
VINYL CHLORIDE
METHYLENE CHLORIDE
CARBON DISULFIDE

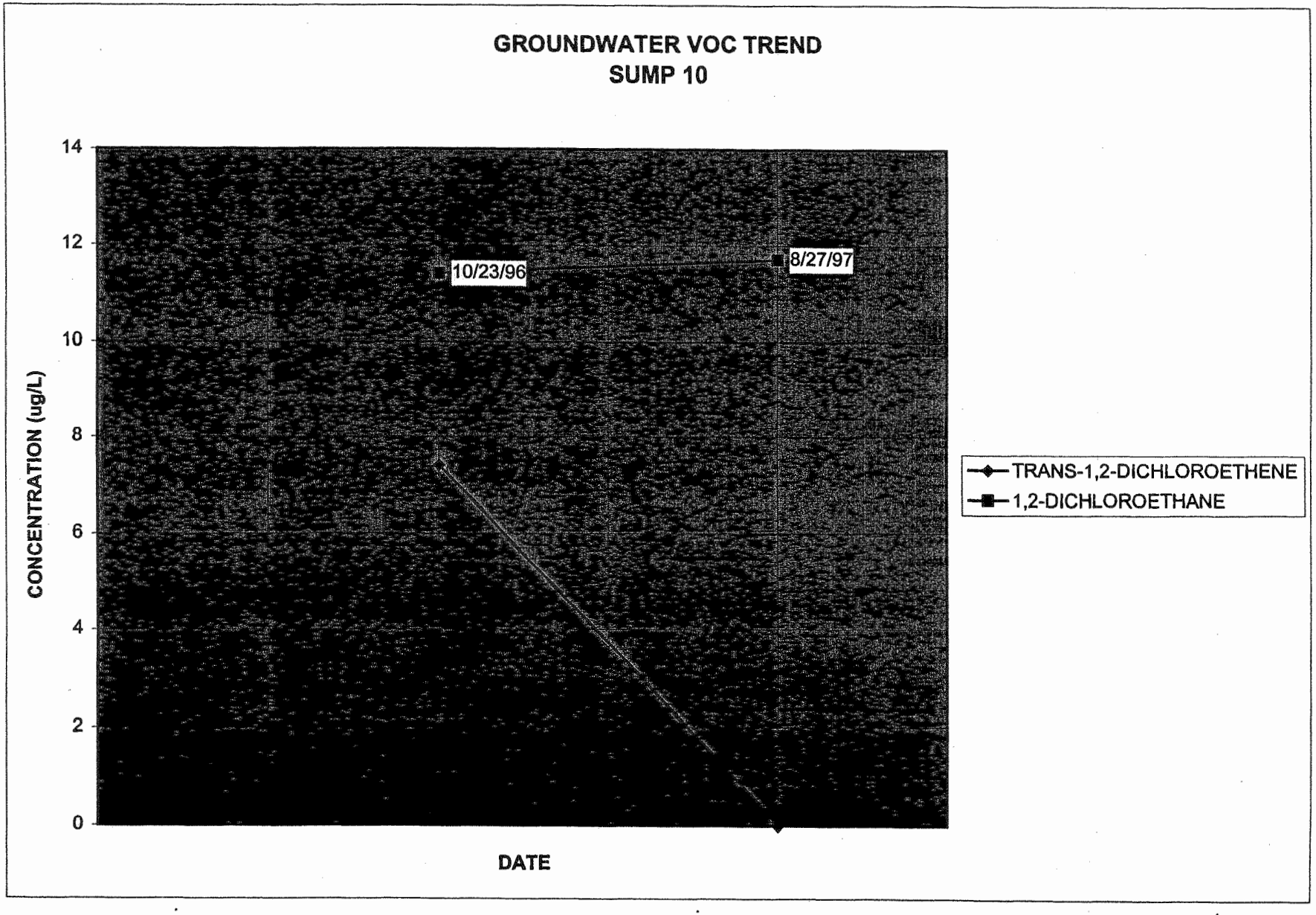

GROUNDWATER VOC TREND
SUMP 8
CONCENTRATION (ug/L)
3000
2500
2000
1500
1000
500
0
4/4/97
6/22/98
DATE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
1,1-DICHLOROETHENE
TRICHLOROETHENE

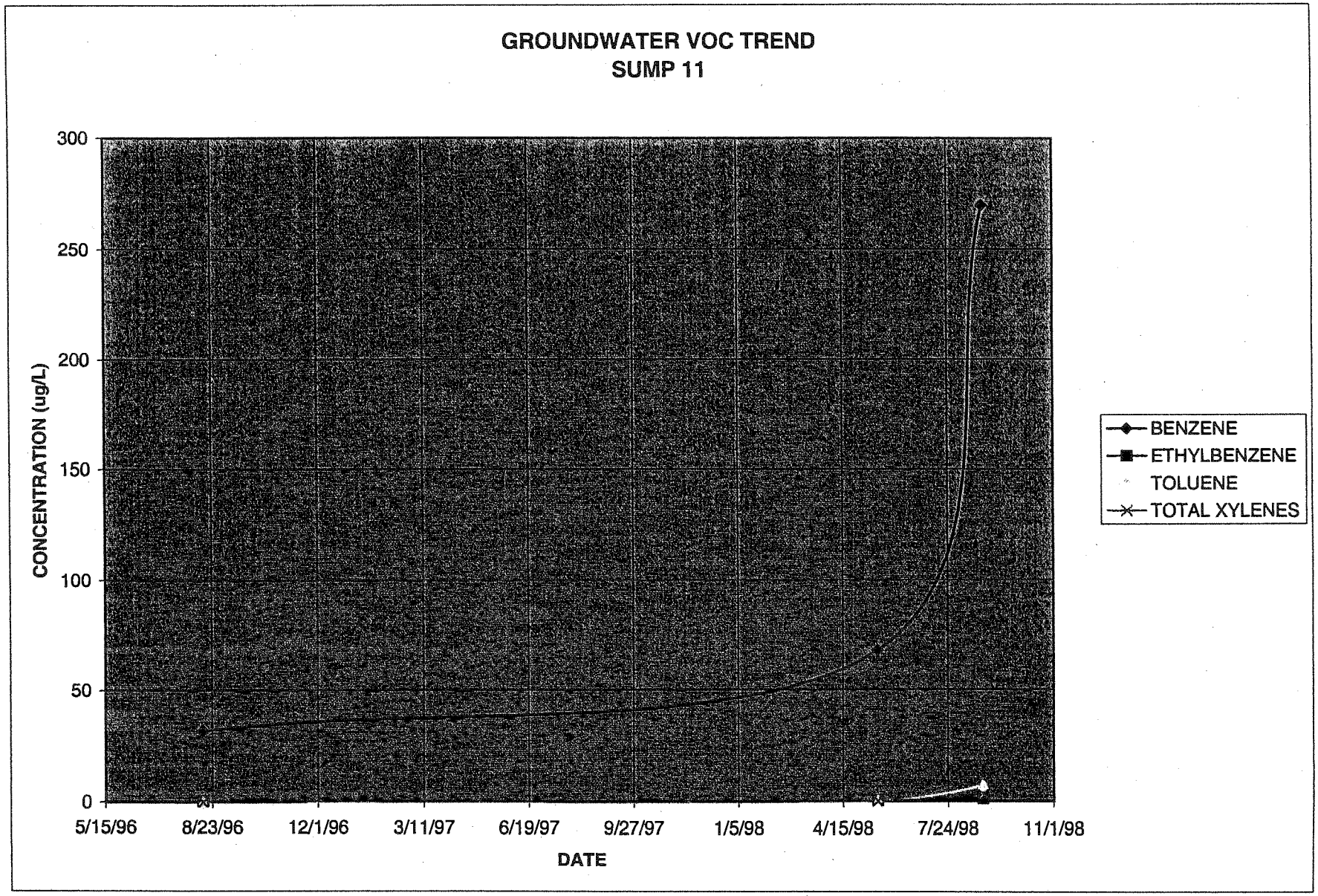

GROUNDWATER VOC TREND
SUMP 8
CONCENTRATION (ug/L)
700
600
500
400
300
200
100
0
4/4/97
07/23/97
6/22/98
7/22/98
DATE
CHLOROBENZENE
1,1,2,2-TETRACHLOROETHANE

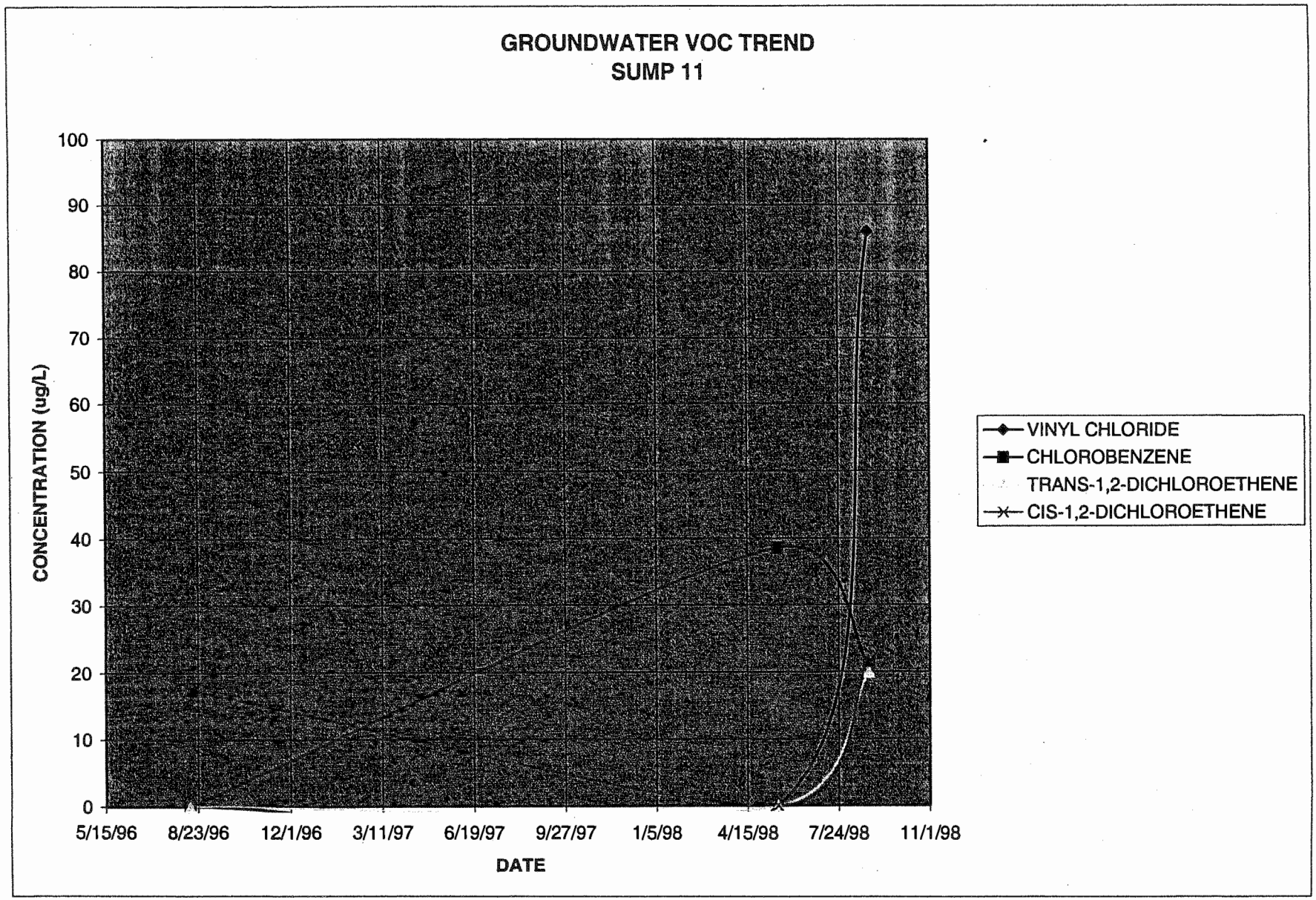

GROUNDWATER VOC TREND
SUMP 9
1200
1000
800
600
400
200
0
CONCENTRATION (ug/L)
5/27/97
DATE
BENZENE
ETHYLBENZENE
TOLUENE
TOTAL XYLENES
CIS-1,2-DICHLOROETHENE
CHLOROBENZENE

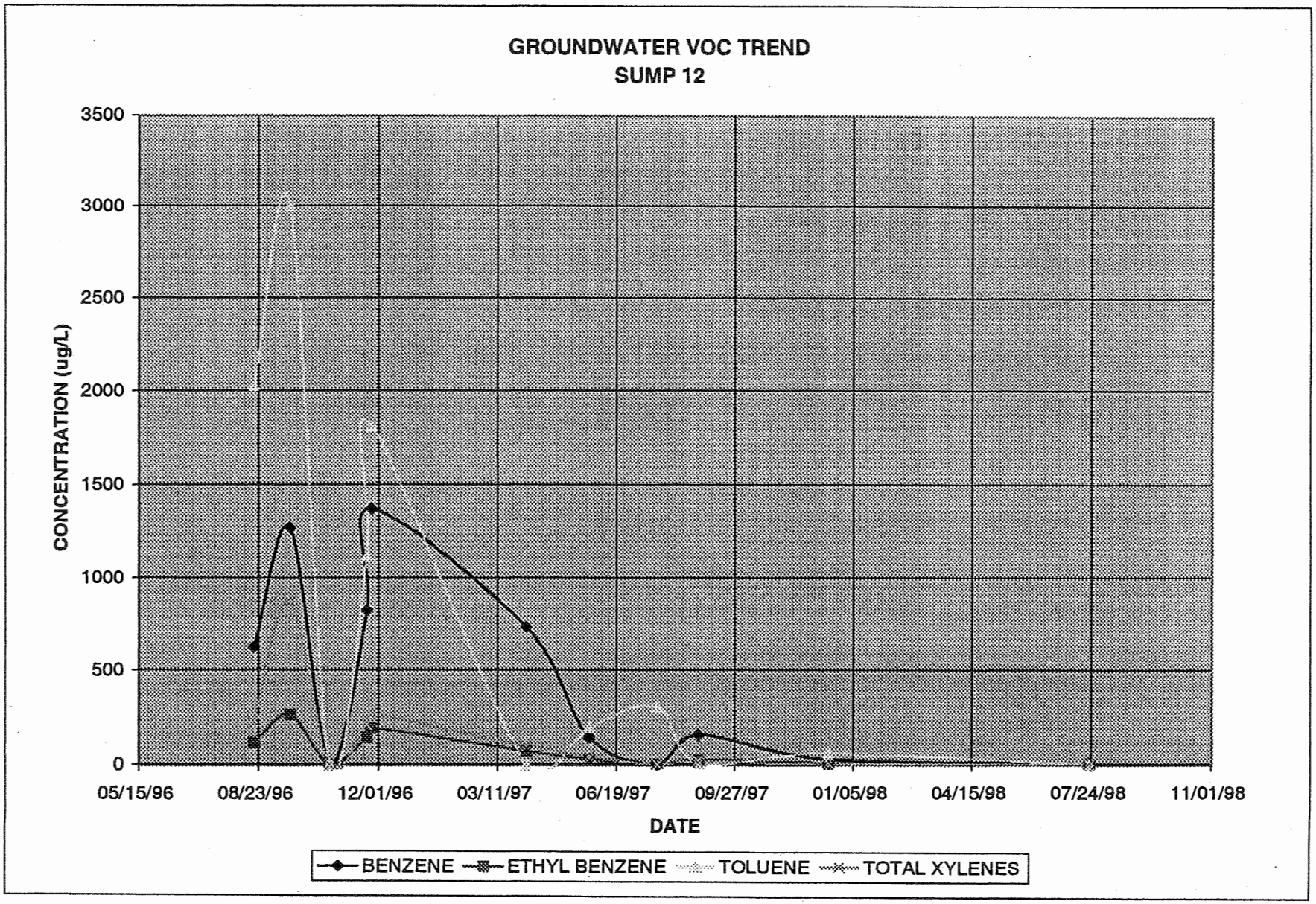

GROUNDWATER VOC TREND
SUMP 10
CONCENTRATION (ug/L)
800
700
600
500
400
300
200
100
0
8/27/97
10/23/96
DATE
BENZENE
TOLUENE
ETHYLBENZENE
TOTAL XYLENES

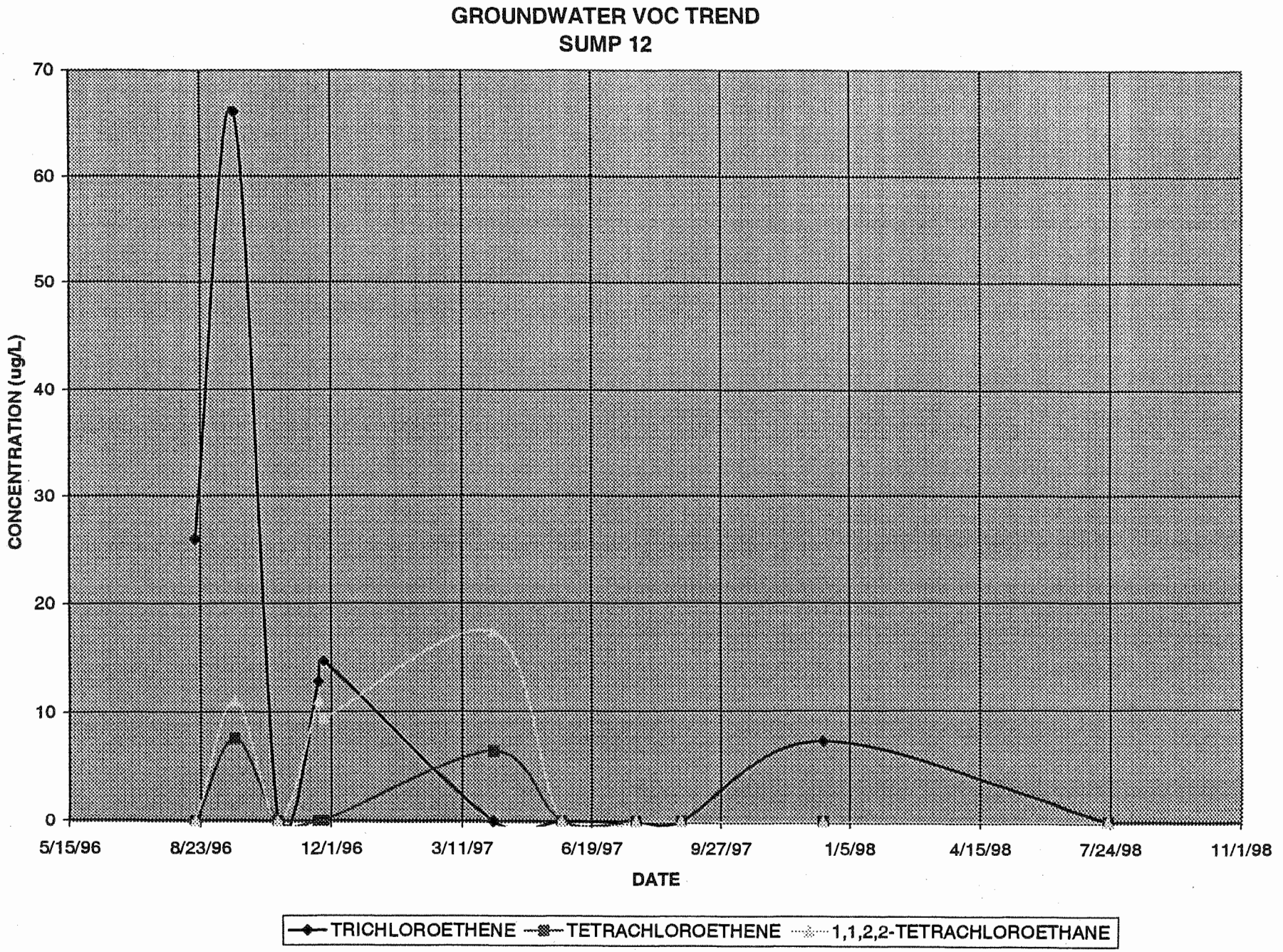

GROUNDWATER VOC TREND
SUMP 10
1400
1200
1000
800
600
400
200
0
CONCENTRATION (ug/L)
8/27/97
10/23/96
DATE
VINYL CHLORIDE
CIS-1,2-DICHLOROETHENE
CHLOROBENZENE

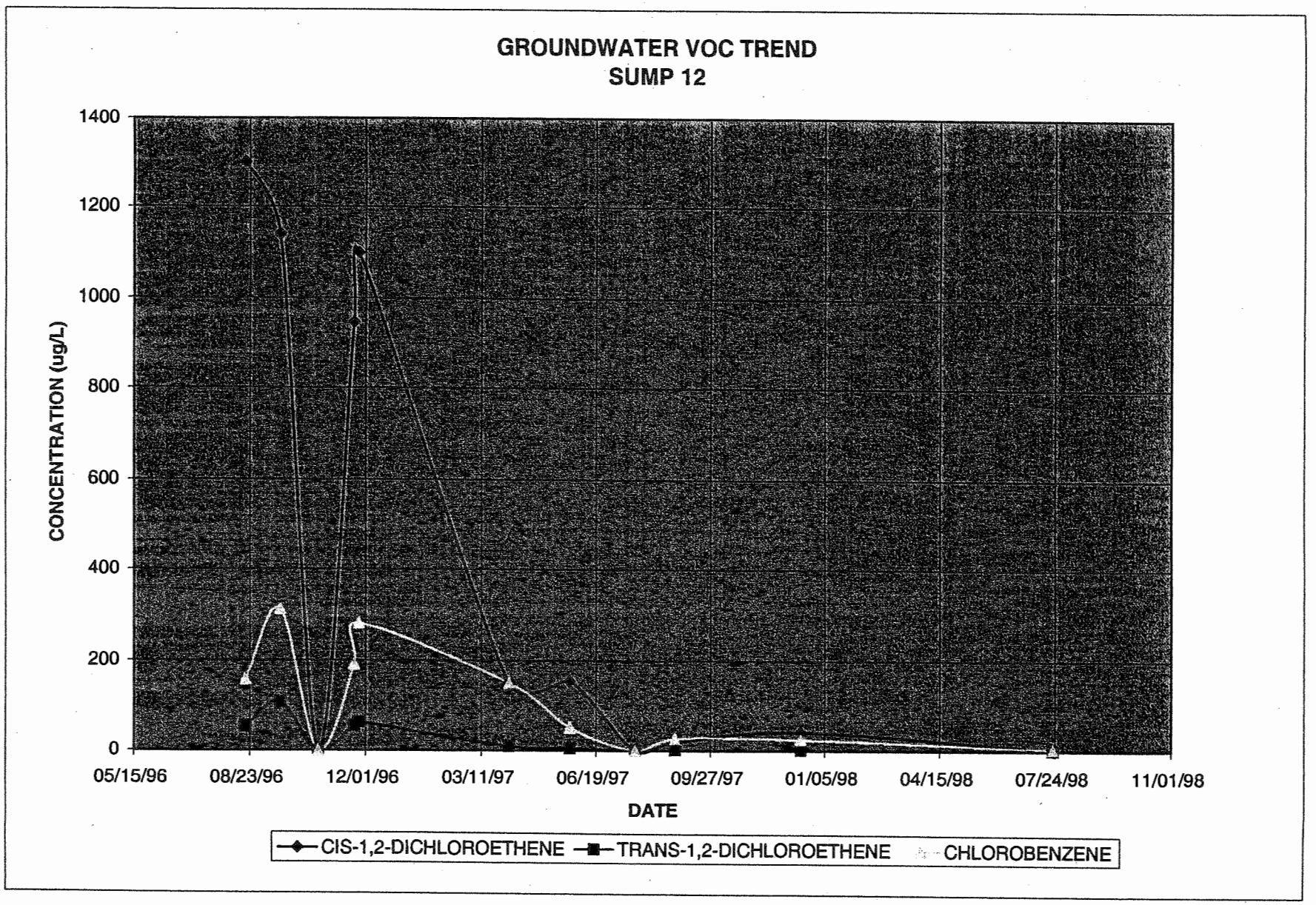

GROUNDWATER VOC TREND
SUMP 10
CONCENTRATION (ug/L)
14
12
10
8
6
4
2
0
10/23/96
8/27/97
DATE
TRANS-1,2-DICHLOROETHENE
1,2-DICHLOROETHANE

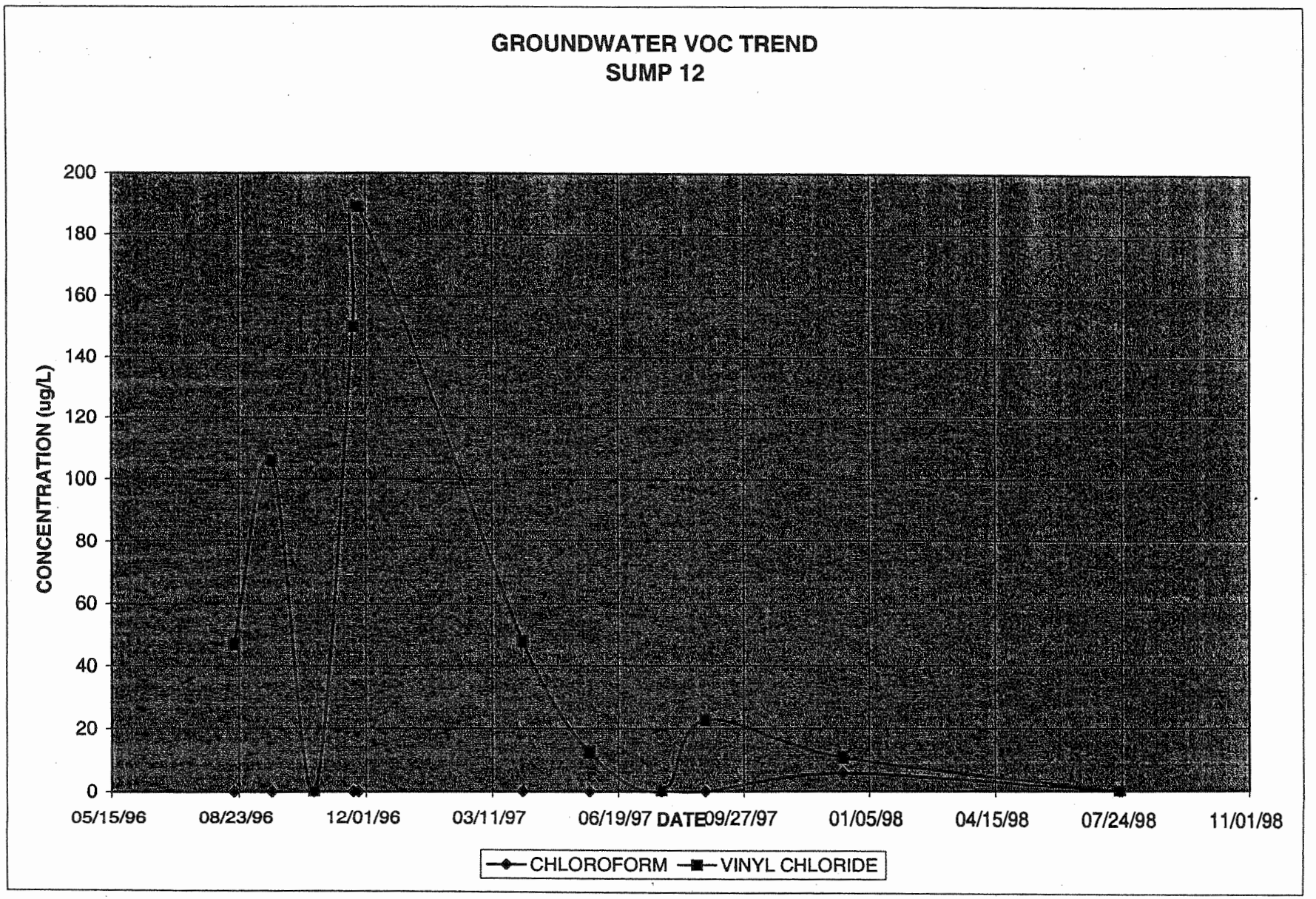

GROUNDWATER VOC TREND
SUMP 11
CONCENTRATION (ug/L)
300
250
200
150
100
50
0
5/15/96
8/23/96
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
BENZENE
ETHYLBENZENE
TOLUENE
TOTAL XYLENES

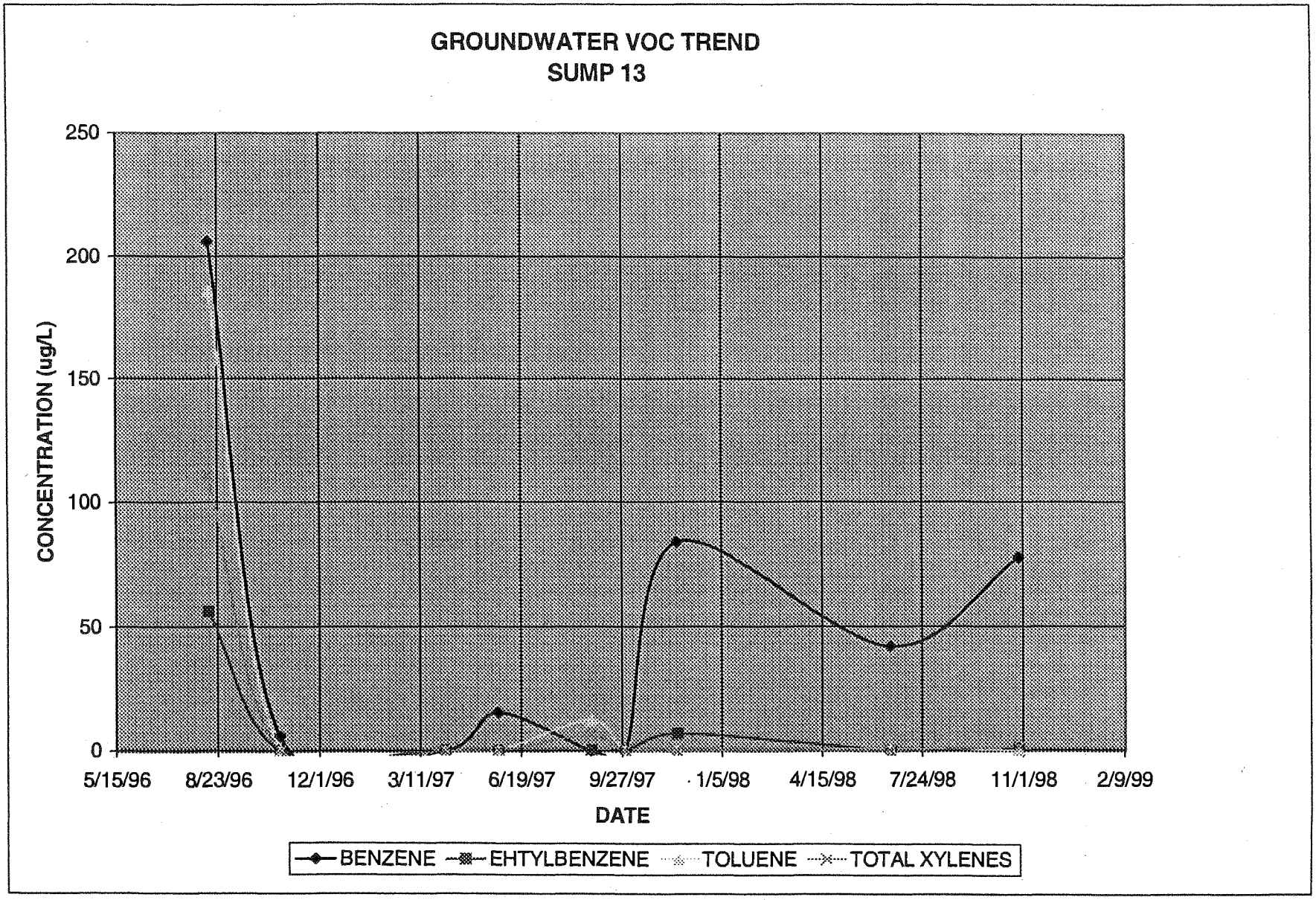

GROUNDWATER VOC TREND
SUMP 11
CONCENTRATION (ug/L)
100
90
80
70
60
50
40
30
20
10
0
5/15/96
8/23/96
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
VINYL CHLORIDE
CHLOROBENZENE
TRANS-1,2-DICHLOROETHENE
CIS-1,2-DICHLOROETHENE

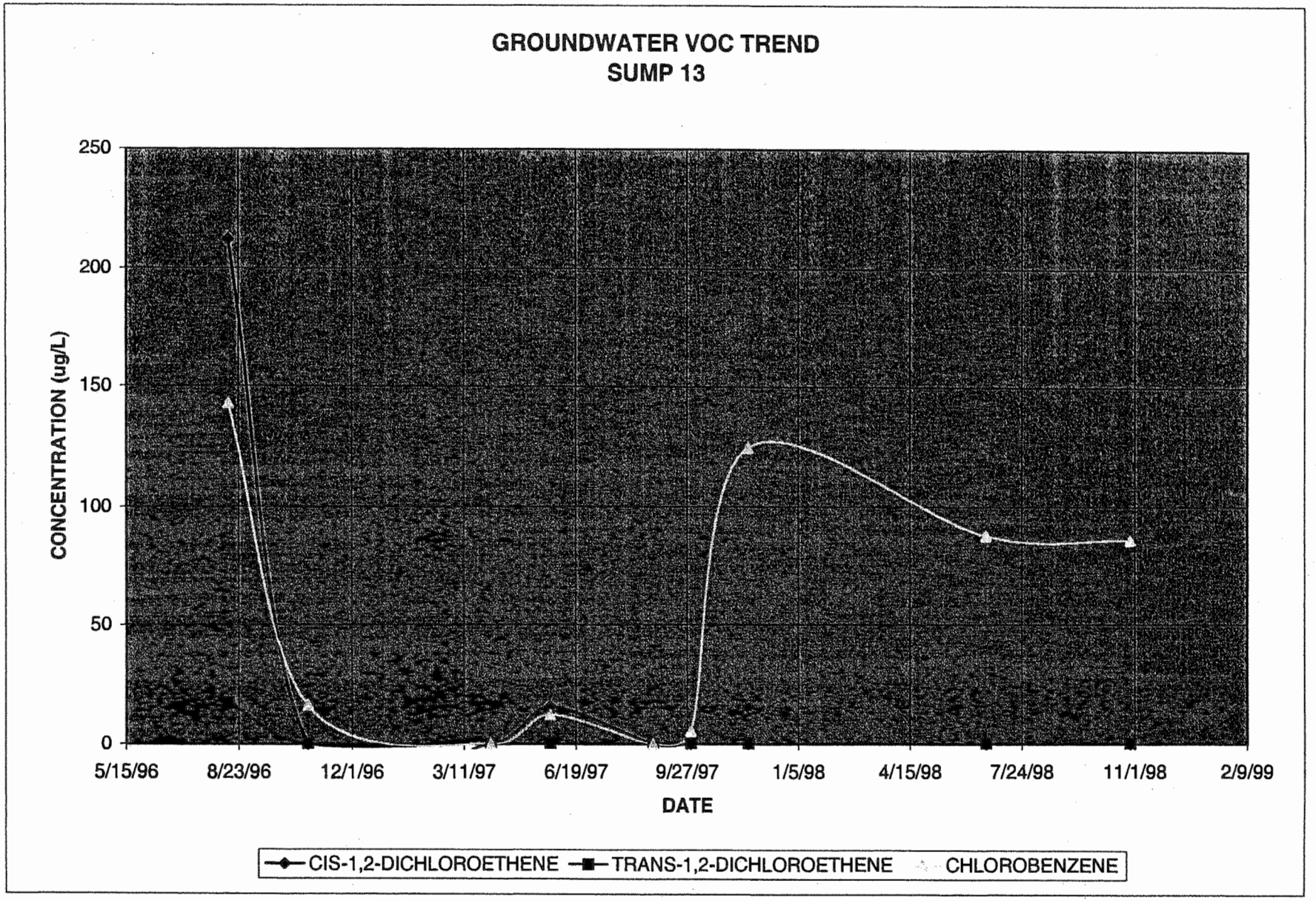

GROUNDWATER VOC TREND
SUMP 12
CONCENTRATION (ug/L)
3500
3000
2500
2000
1500
1000
500
0
05/15/96
08/23/96
12/01/96
03/11/97
06/19/97
09/27/97
01/05/98
04/15/98
07/24/98
11/01/98
DATE
BENZENE
ETHYL BENZENE
TOLUENE
TOTAL XYLENES

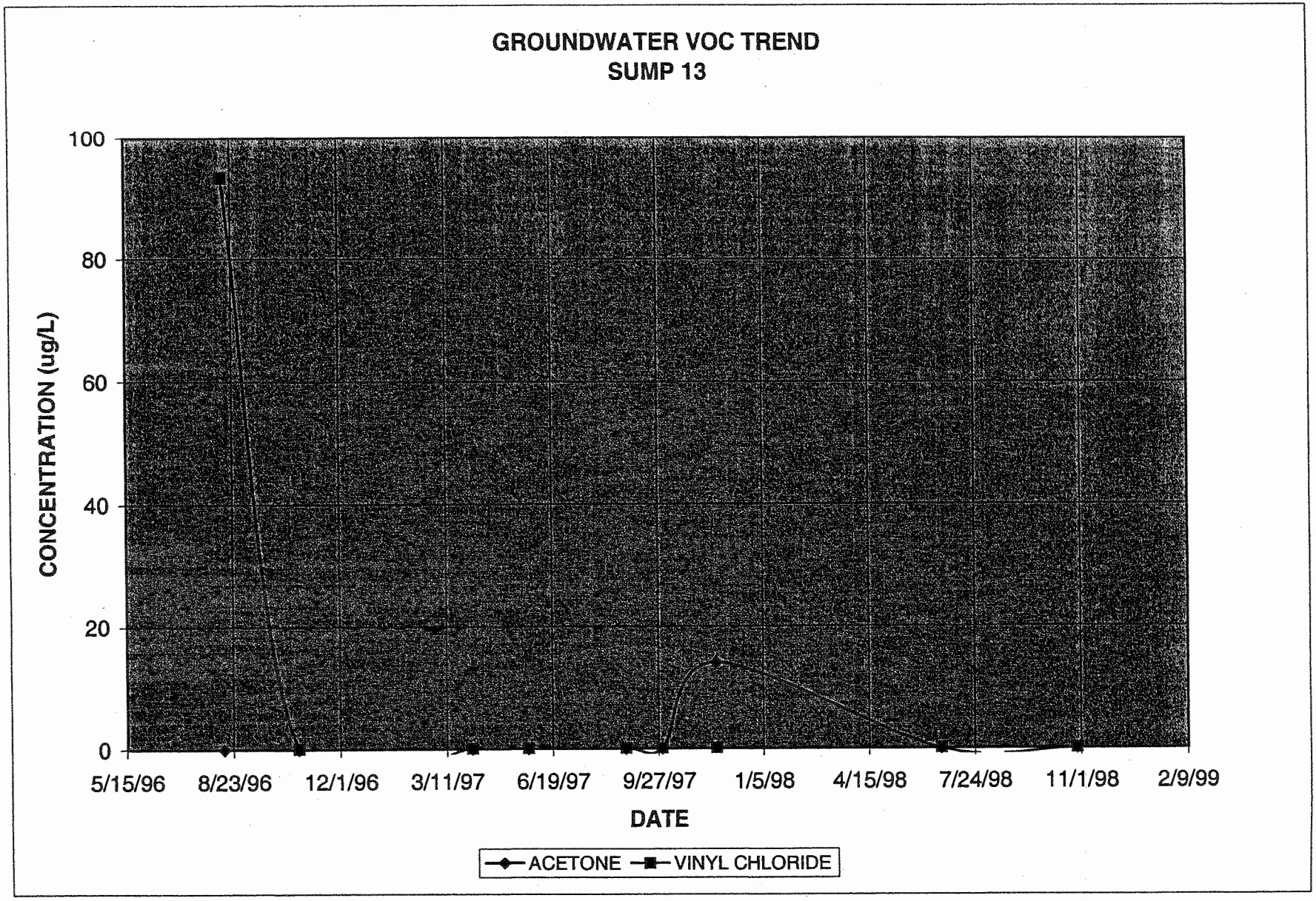

GROUNDWATER VOC TREND
SUMP 12
CONCENTRATION (ug/L)
70
60
50
40
30
20
10
0
5/15/96
8/23/96
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
DATE
TRICHLOROETHENE
TETRACHLOROETHENE
1,1,2,2-TETRACHLOROETHANE

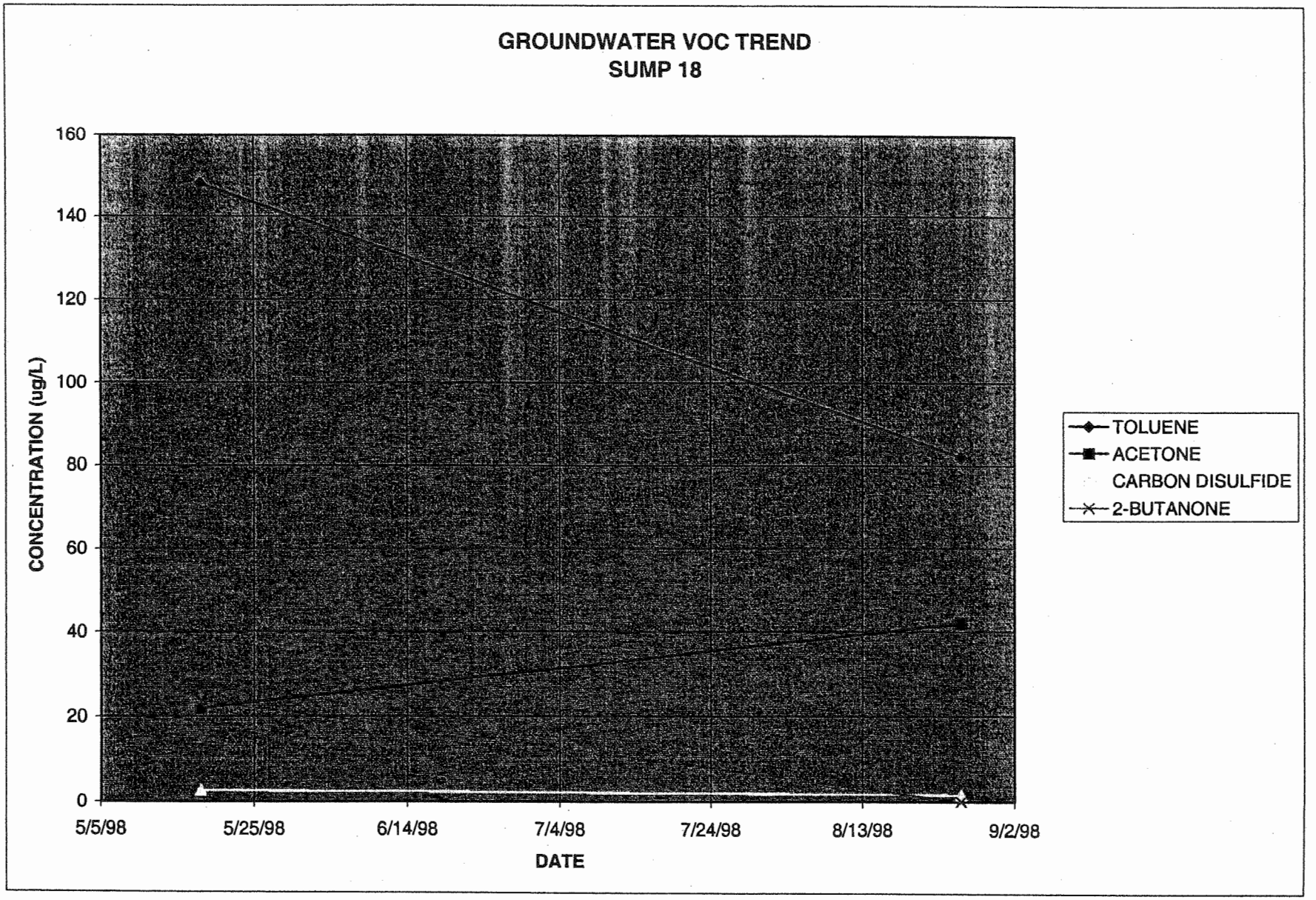

GROUNDWATER VOC TREND
SUMP 12
CONCENTRATION (ug/L)
1400
1200
1000
800
600
400
200
0
05/15/96
08/23/96
12/01/96
03/11/97
06/19/97
09/27/97
01/05/98
04/15/98
07/24/98
11/01/98
DATE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
CHLOROBENZENE

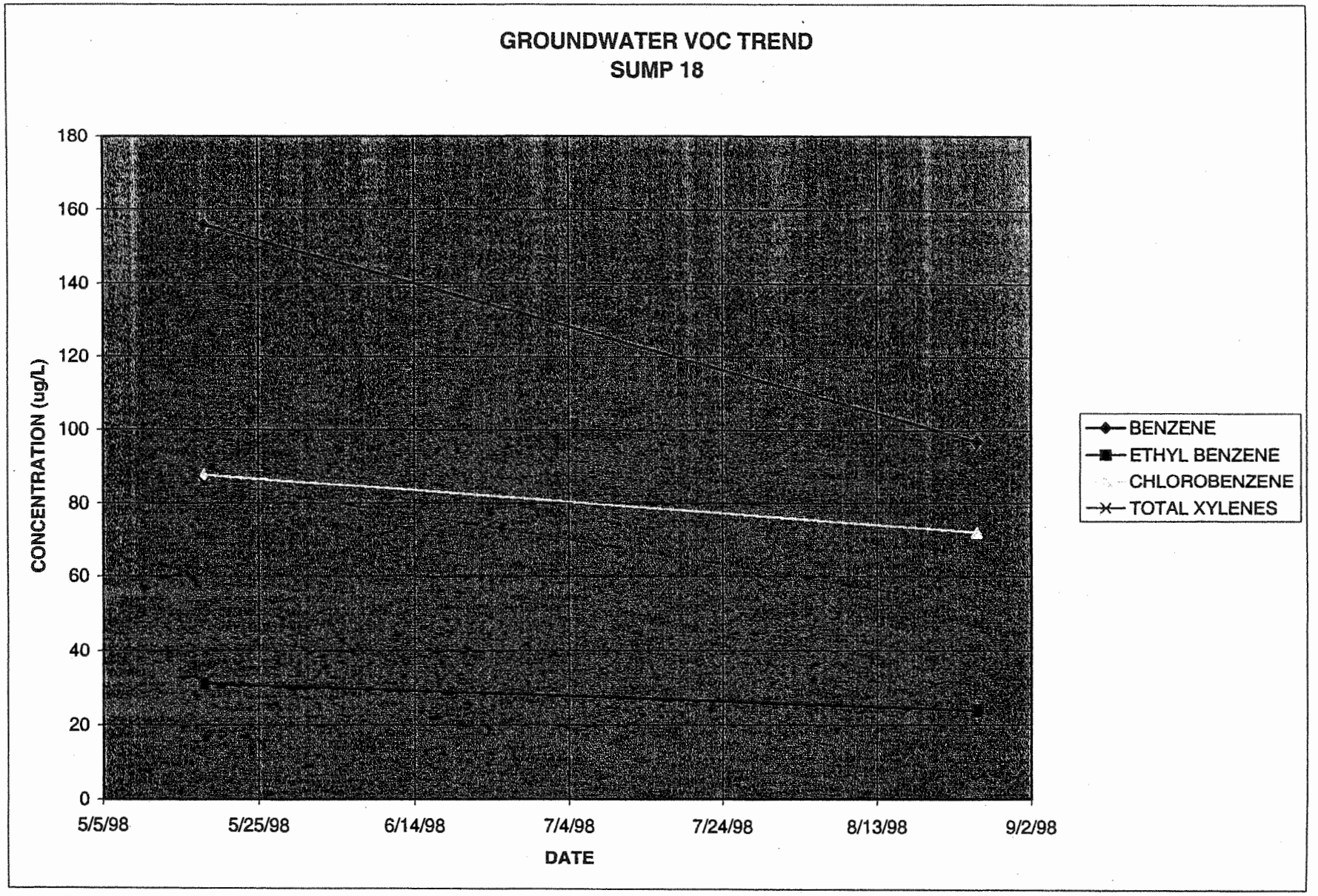

GROUNDWATER VOC TREND
SUMP 12
CONCENTRATION (ug/L)
200
180
160
140
120
100
80
60
40
20
0
05/15/96
08/23/96
12/01/96
03/11/97
06/19/97
DATE
09/27/97
01/05/98
04/15/98
07/24/98
11/01/98
CHLOROFORM
VINYL CHLORIDE

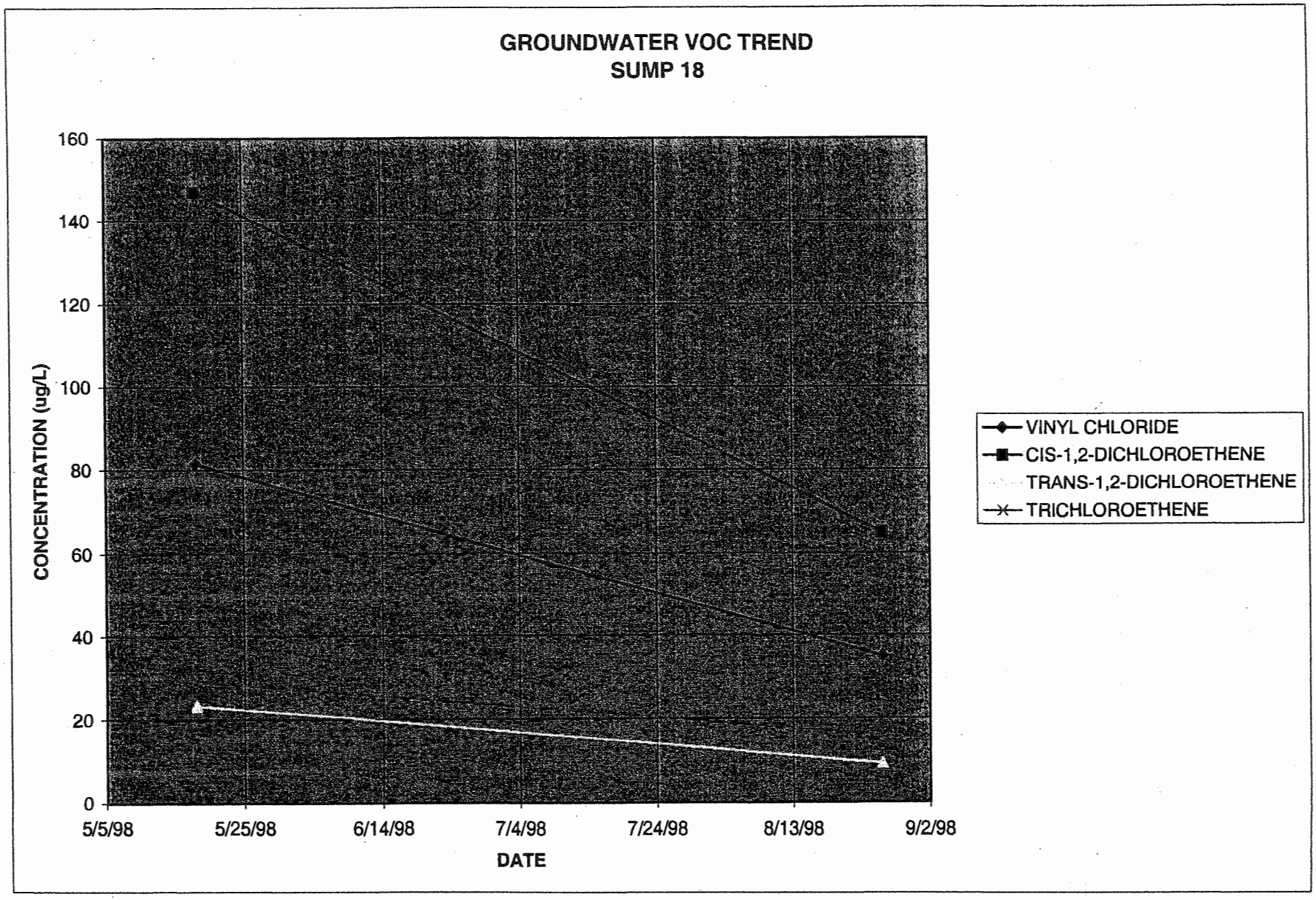

GROUNDWATER VOC TREND
SUMP 13
CONCENTRATION (ug/L)
250
200
150
100
50
0
5/15/96
8/23/96
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
2/9/99
DATE
BENZENE
EHTYLBENZENE
TOLUENE
TOTAL XYLENES

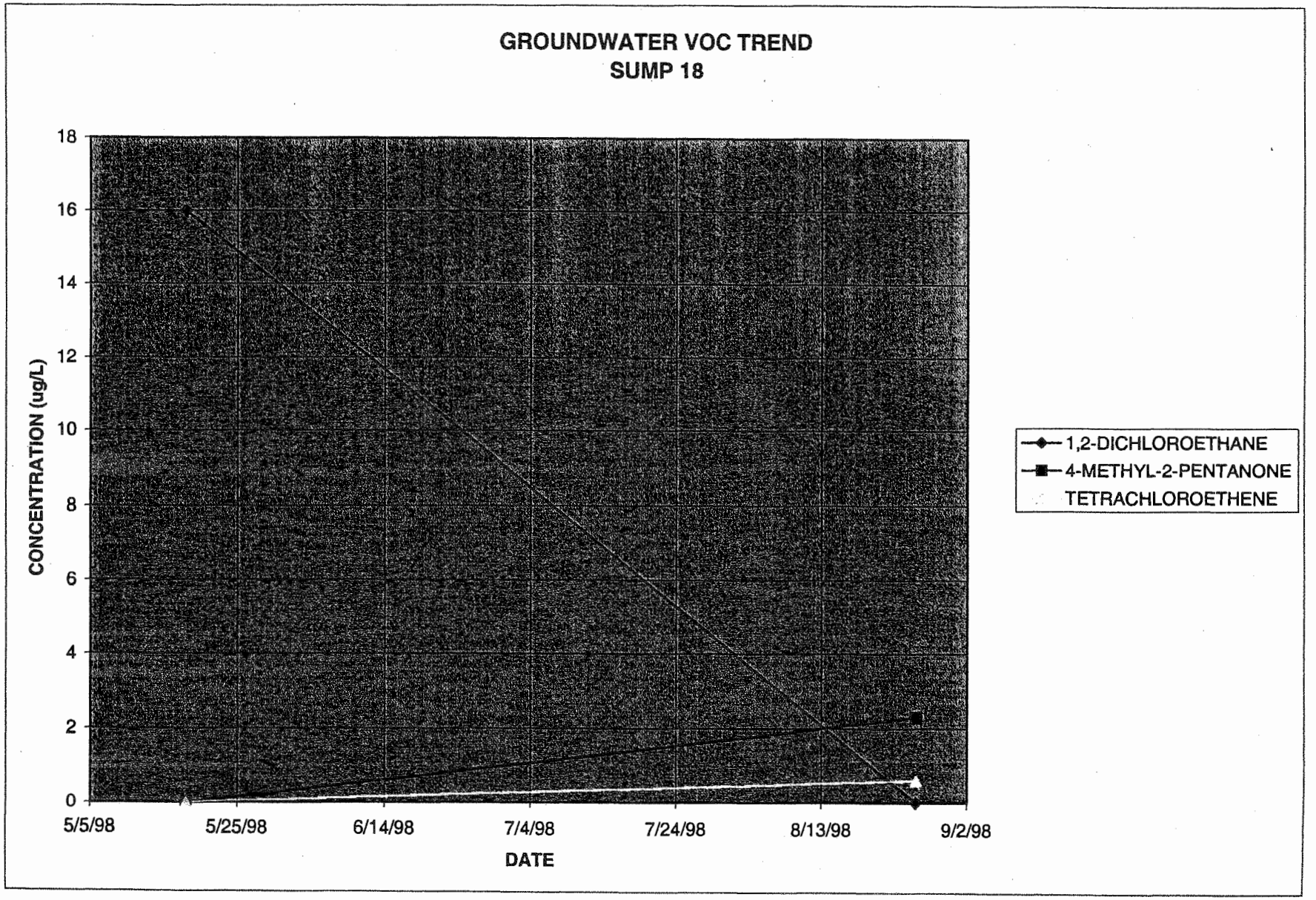

GROUNDWATER VOC TREND
SUMP 13
CONCENTRATION (ug/L)
250
200
150
100
50
0
5/15/96
8/23/96
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
2/9/99
DATE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
CHLOROBENZENE

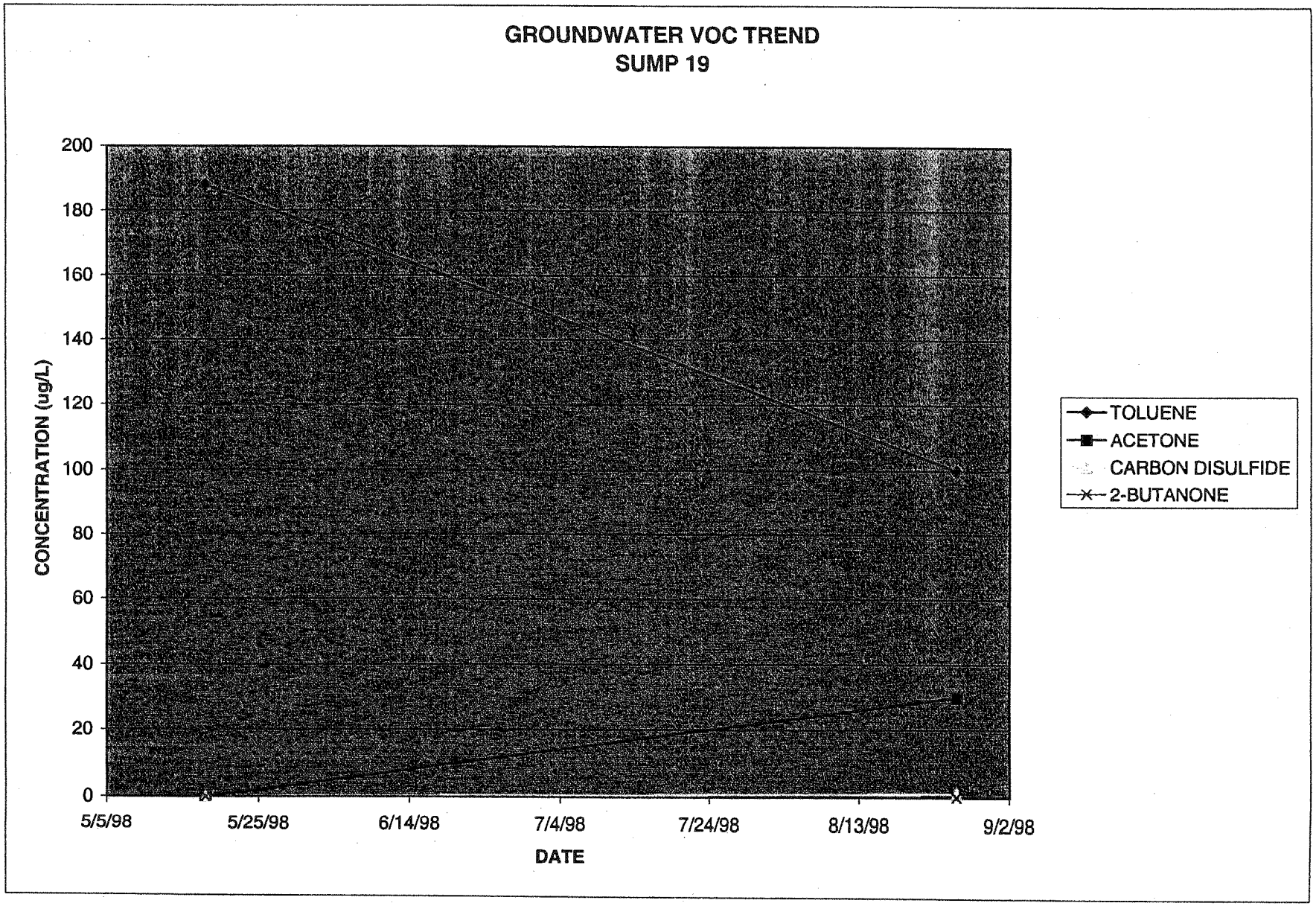

GROUNDWATER VOC TREND
SUMP 13
CONCENTRATION (ug/L)
100
80
60
40
20
0
5/15/96
8/23/96
12/1/96
3/11/97
6/19/97
9/27/97
1/5/98
4/15/98
7/24/98
11/1/98
2/9/99
DATE
ACETONE
VINYL CHLORIDE

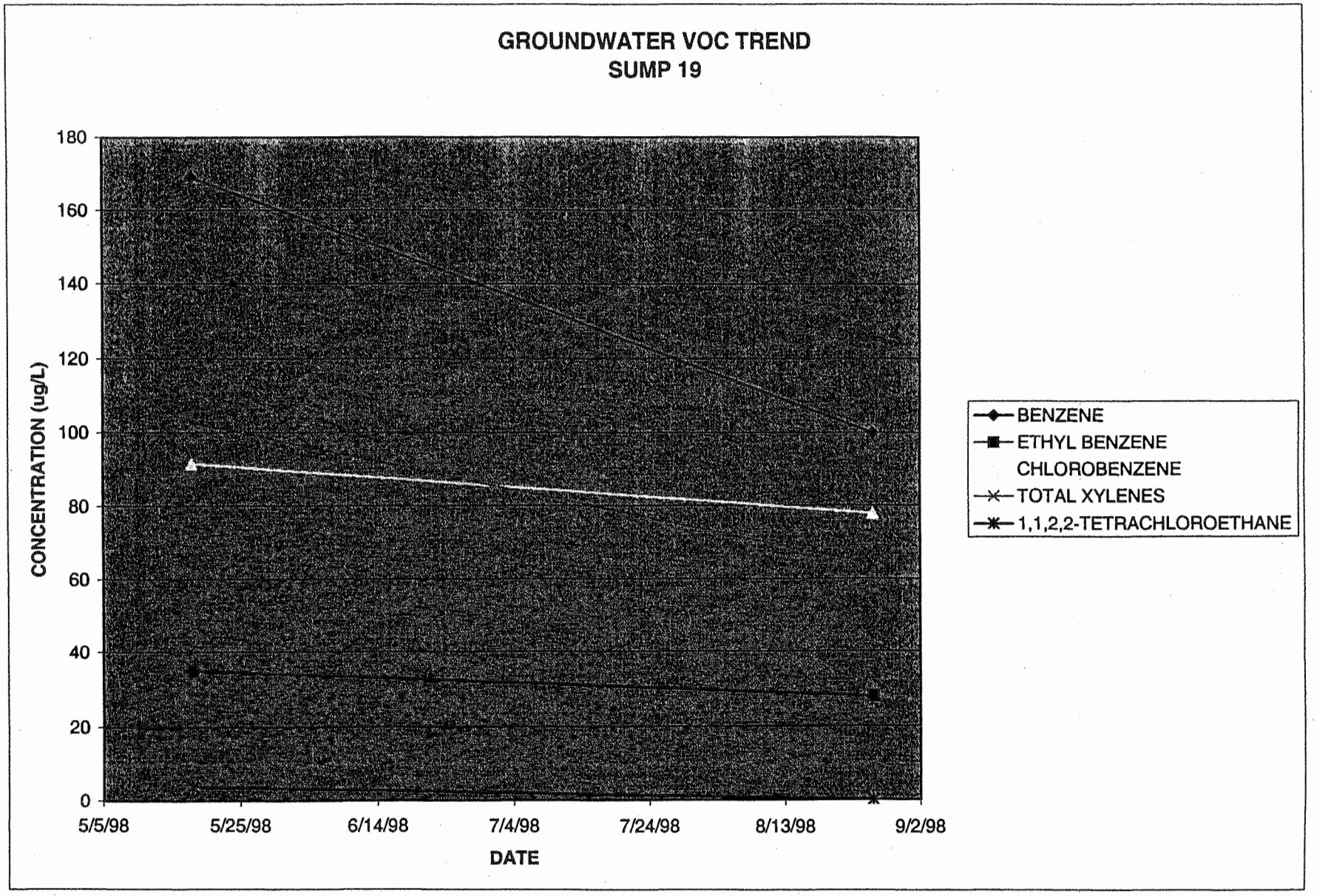

GROUNDWATER VOC TREND
SUMP 18
CONCENTRATION (ug/L)
160
140
120
100
80
60
40
20
0
5/5/98
5/25/98
6/14/98
7/4/98
7/24/98
8/13/98
9/2/98
DATE
TOLUENE
ACETONE
CARBON DISULFIDE
2-BUTANONE

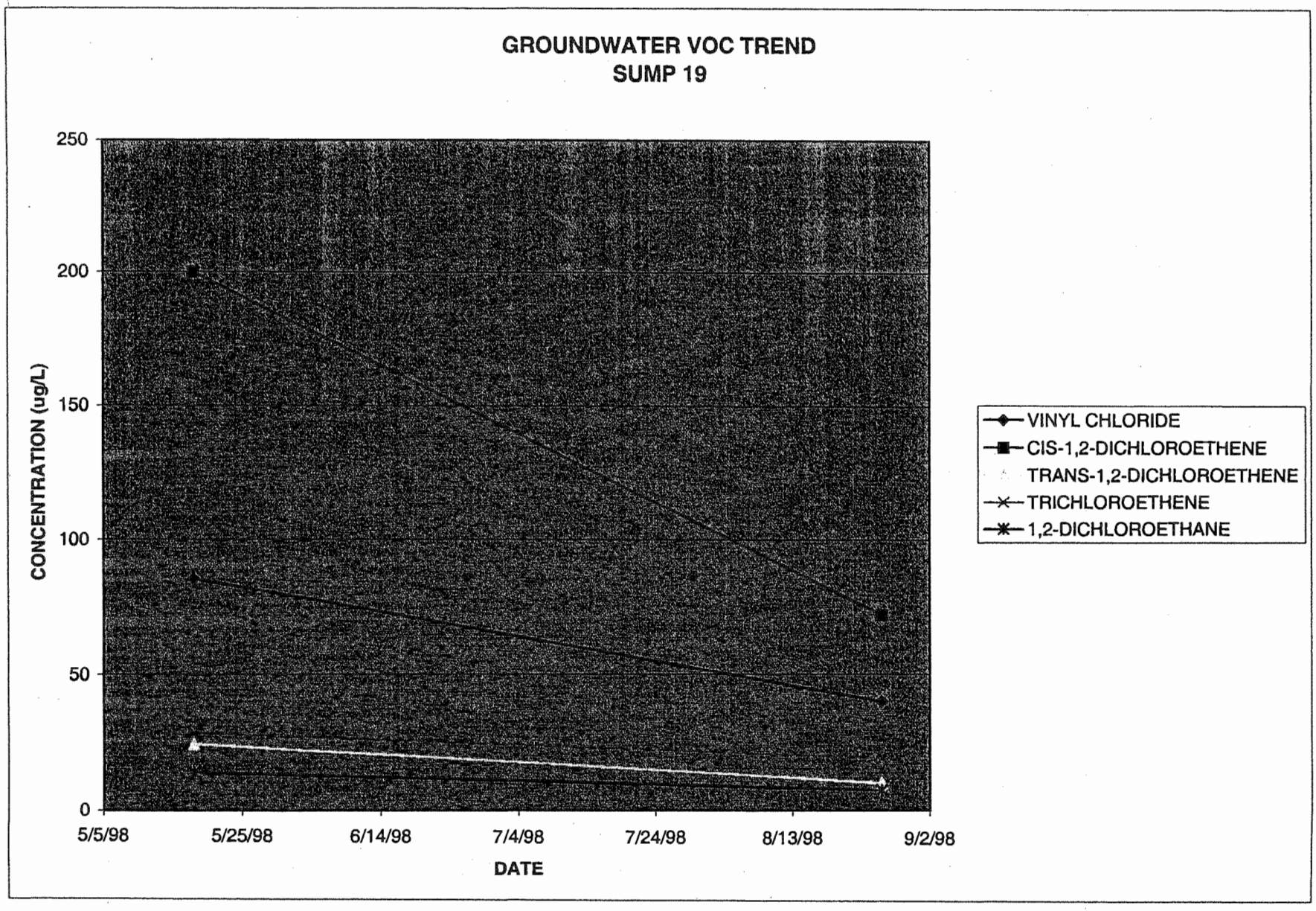

GROUNDWATER VOC TREND
SUMP 18
CONCENTRATION (ug/L)
180
160
140
120
100
80
60
40
20
0
5/5/98
5/25/98
6/14/98
7/4/98
7/24/98
8/13/98
9/2/98
DATE
BENZENE
ETHYL BENZENE
CHLOROBENZENE
TOTAL XYLENES

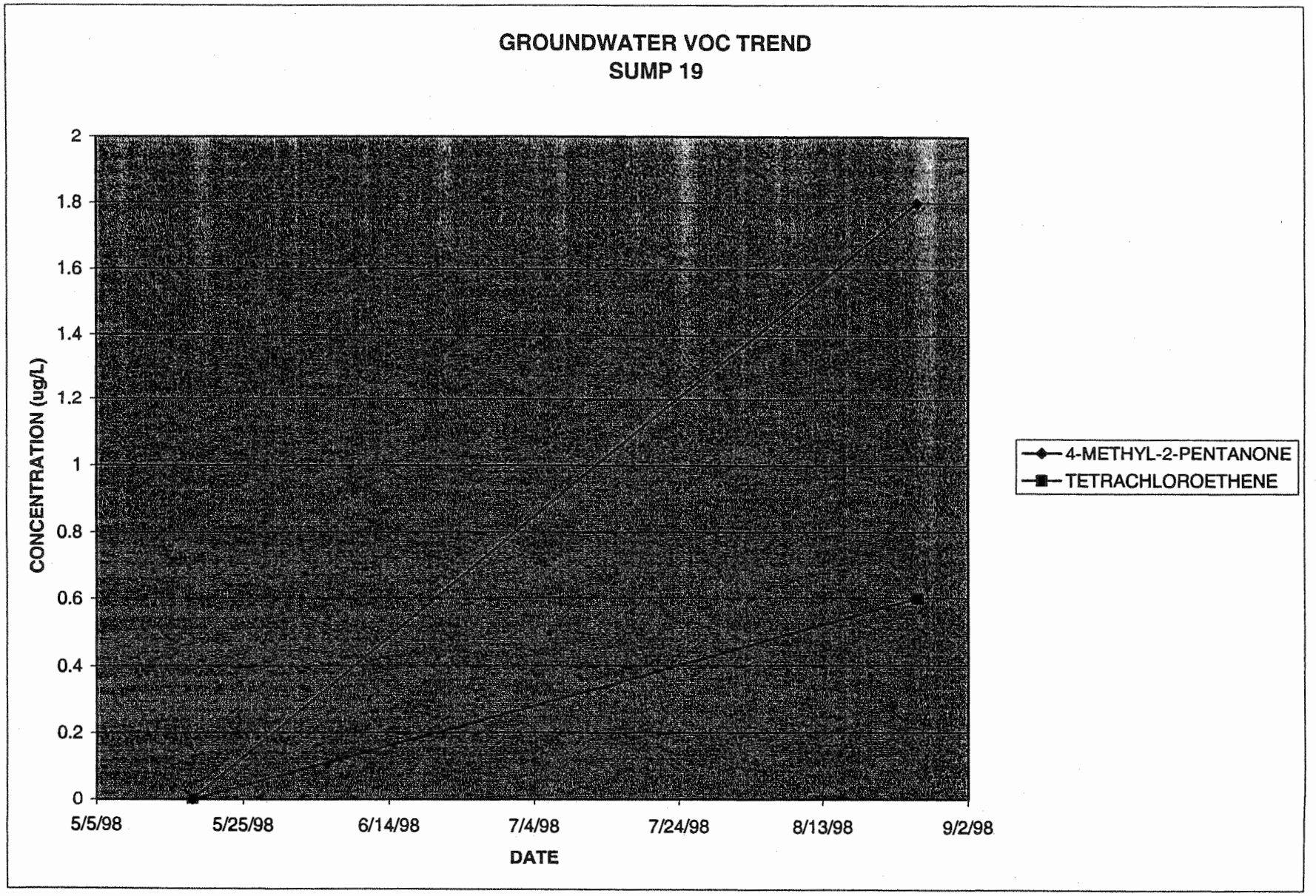

GROUNDWATER VOC TREND
SUMP 18
CONCENTRATION (ug/L)
160
140
120
100
80
60
40
20
0
5/5/98
5/25/98
6/14/98
7/4/98
7/24/98
8/13/98
9/2/98
DATE
VINYL CHLORIDE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
TRICHLOROETHENE

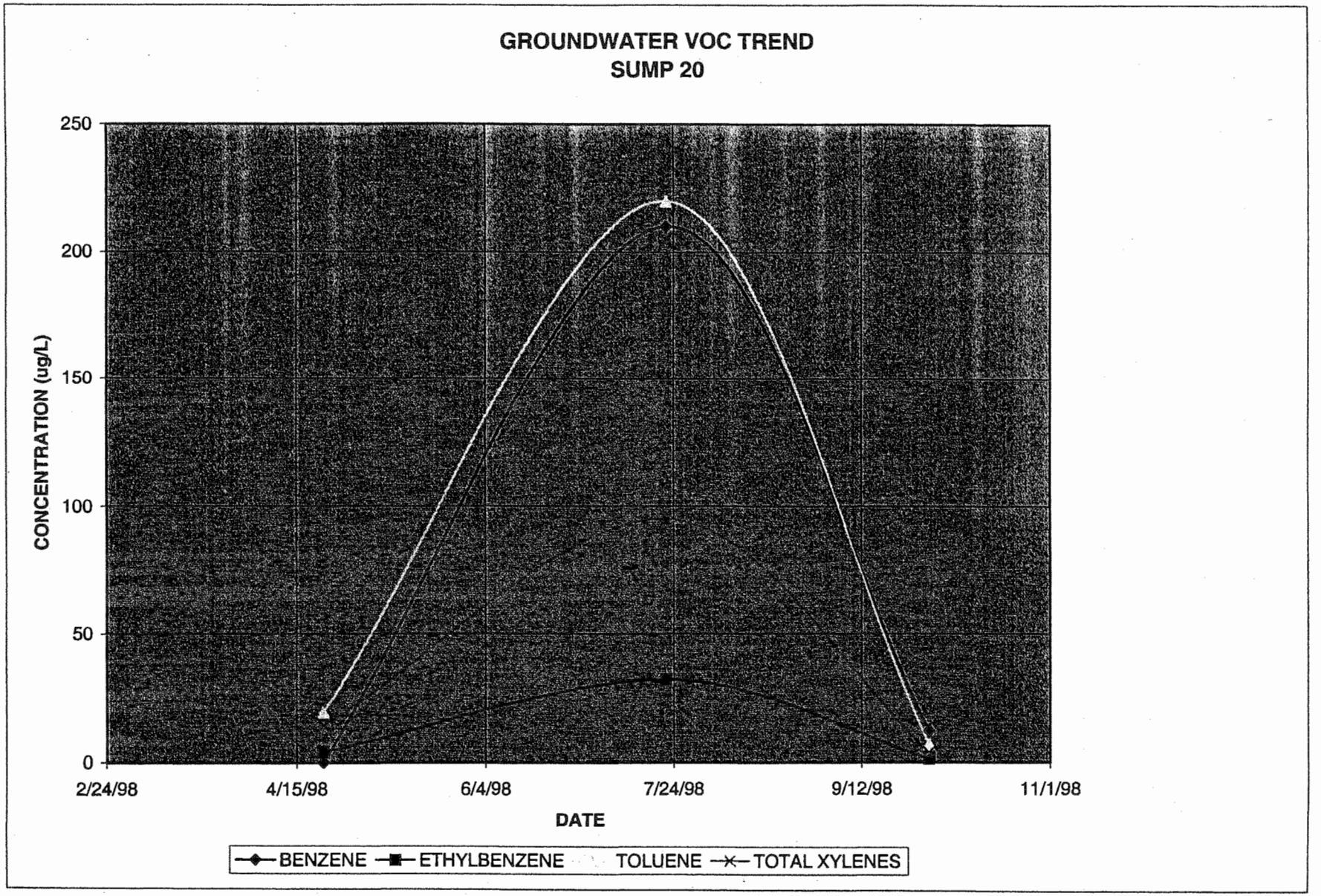

GROUNDWATER VOC TREND
SUMP 18
CONCENTRATION (ug/L)
18
16
14
12
10
8
6
4
2
0
5/5/98
5/25/98
6/14/98
7/4/98
7/24/98
8/13/98
9/2/98
DATE
1,2-DICHLOROETHANE
4-METHYL-2-PENTANONE
TETRACHLOROETHENE

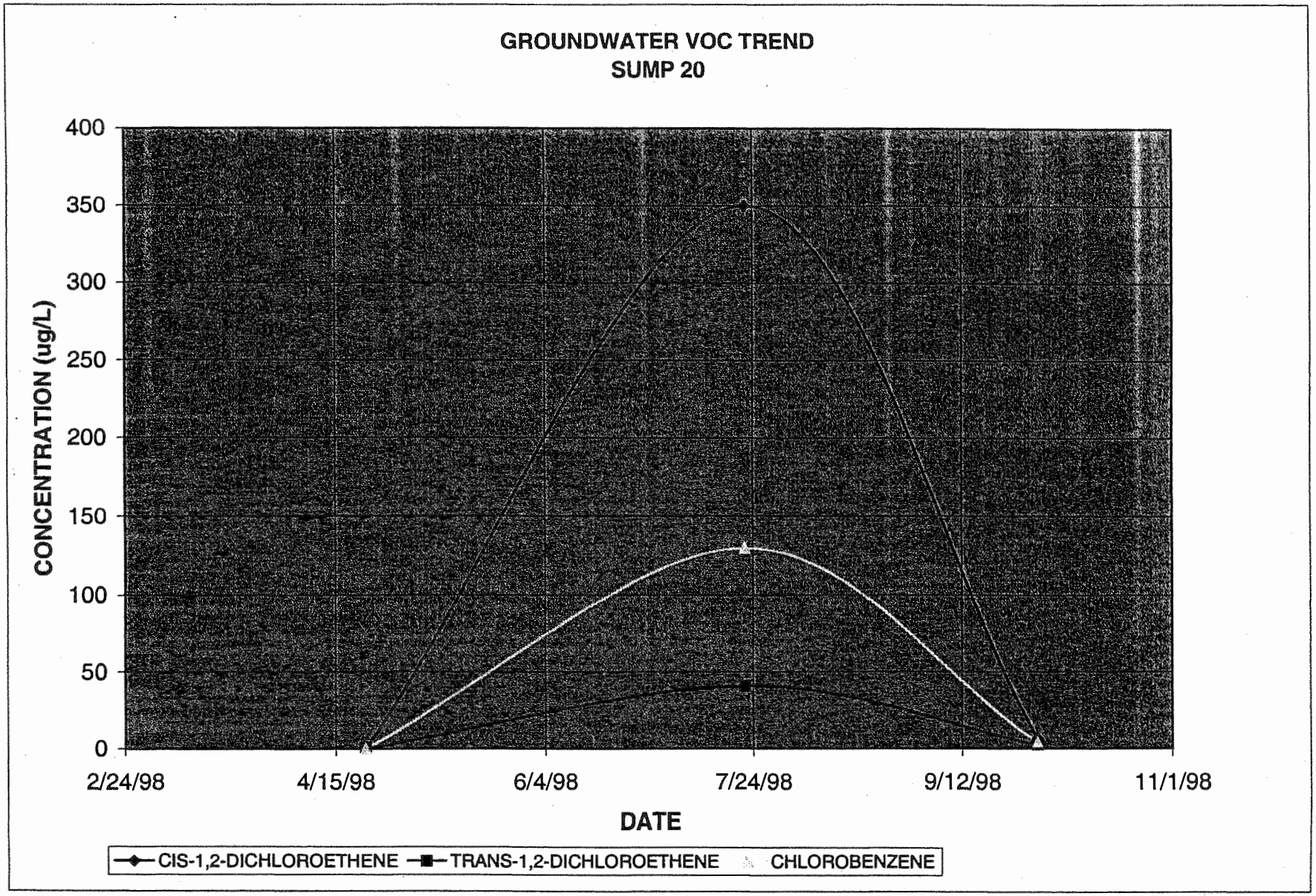

GROUNDWATER VOC TREND
SUMP 19
CONCENTRATION (ug/L)
200
180
160
140
120
100
80
60
40
20
0
5/5/98
5/25/98
6/14/98
7/4/98
7/24/98
8/13/98
9/2/98
DATE
TOLUENE
ACETONE
CARBON DISULFIDE
2-BUTANONE

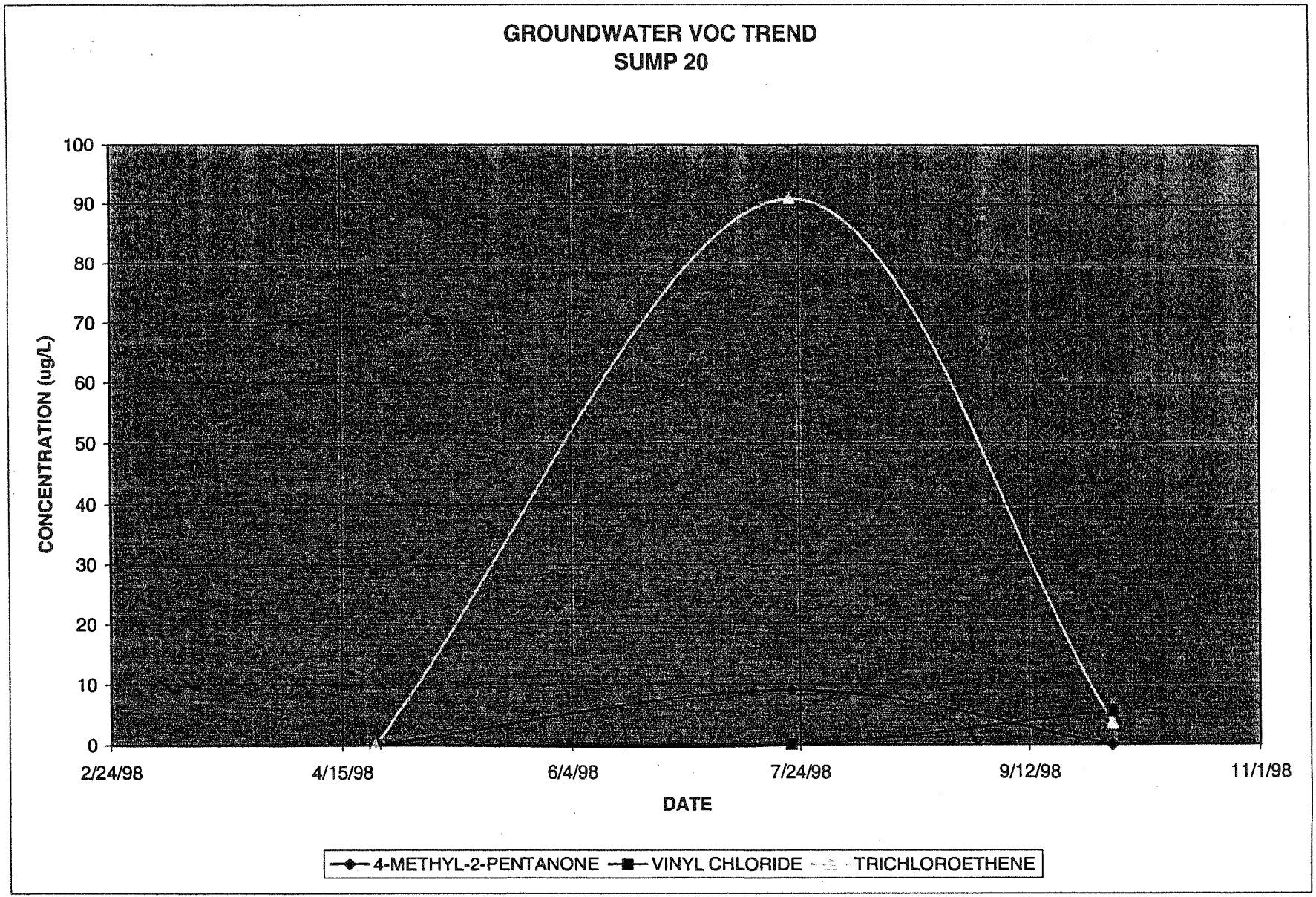

GROUNDWATER VOC TREND
SUMP 19
CONCENTRATION (ug/L)
180
160
140
120
100
80
60
40
20
0
5/5/98
5/25/98
6/14/98
7/4/98
7/24/98
8/13/98
9/2/98
DATE
BENZENE
ETHYL BENZENE
CHLOROBENZENE
TOTAL XYLENES
1,1,2,2-TETRACHLOROETHANE

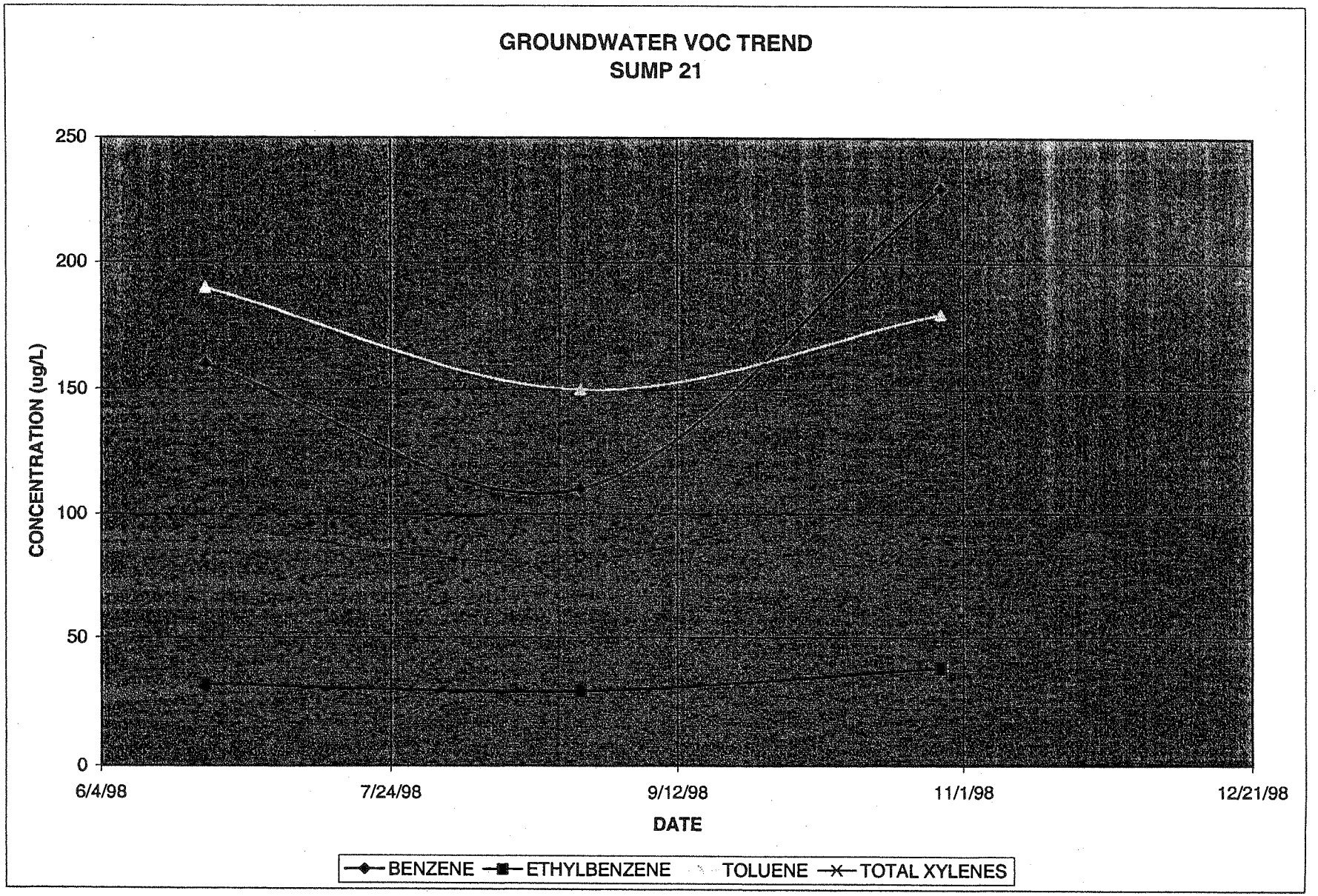

GROUNDWATER VOC TREND
SUMP 19
CONCENTRATION (ug/L)
250
200
150
100
50
0
5/5/98
5/25/98
6/14/98
7/4/98
7/24/98
8/13/98
9/2/98
DATE
VINYL CHLORIDE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
TRICHLOROETHENE
1,2-DICHLOROETHANE

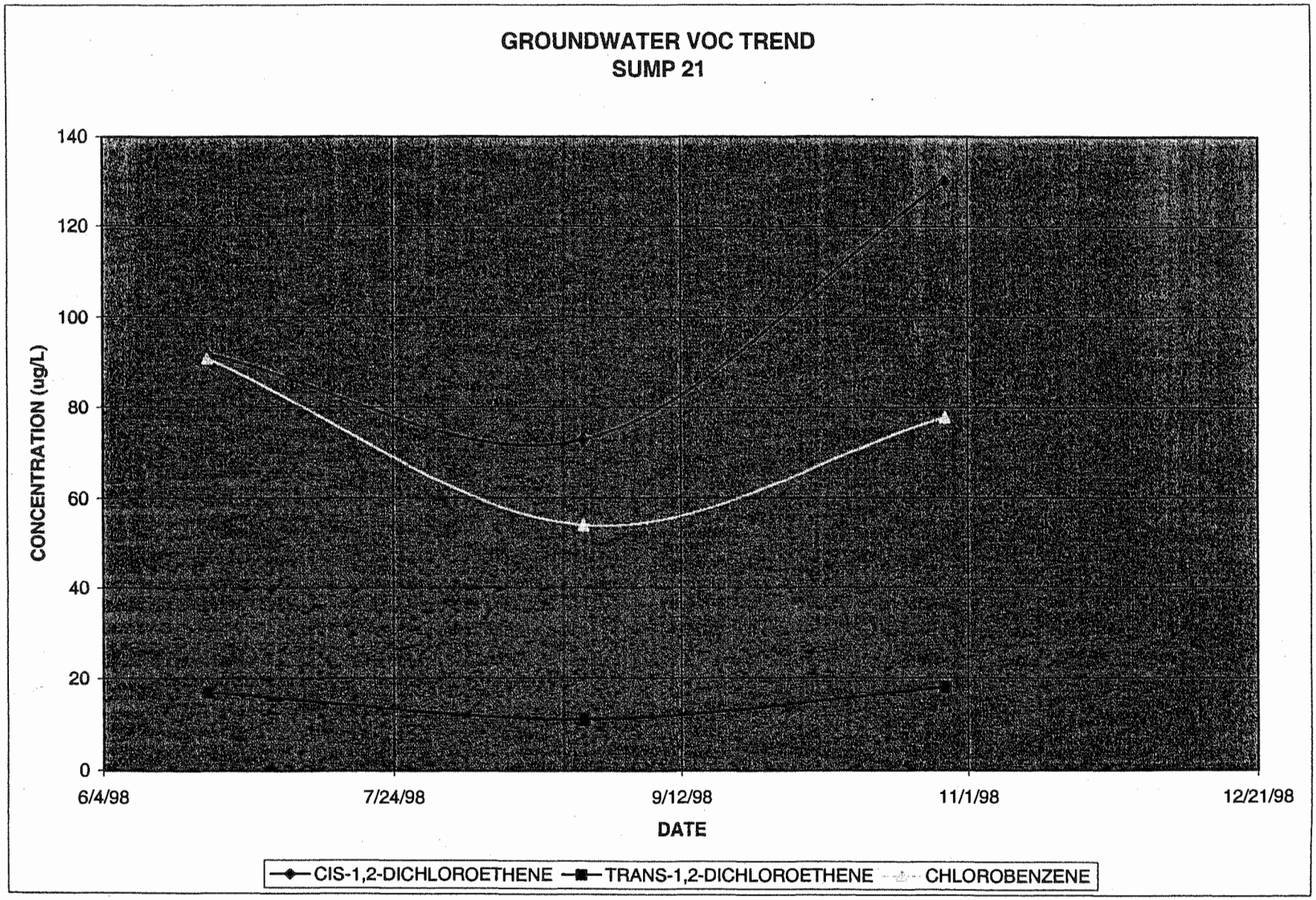

GROUNDWATER VOC TREND
SUMP 19
CONCENTRATION (ug/L)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
5/5/98
5/25/98
6/14/98
7/4/98
7/24/98
8/13/98
9/2/98
DATE
4-METHYL-2-PENTANONE
TETRACHLOROETHENE

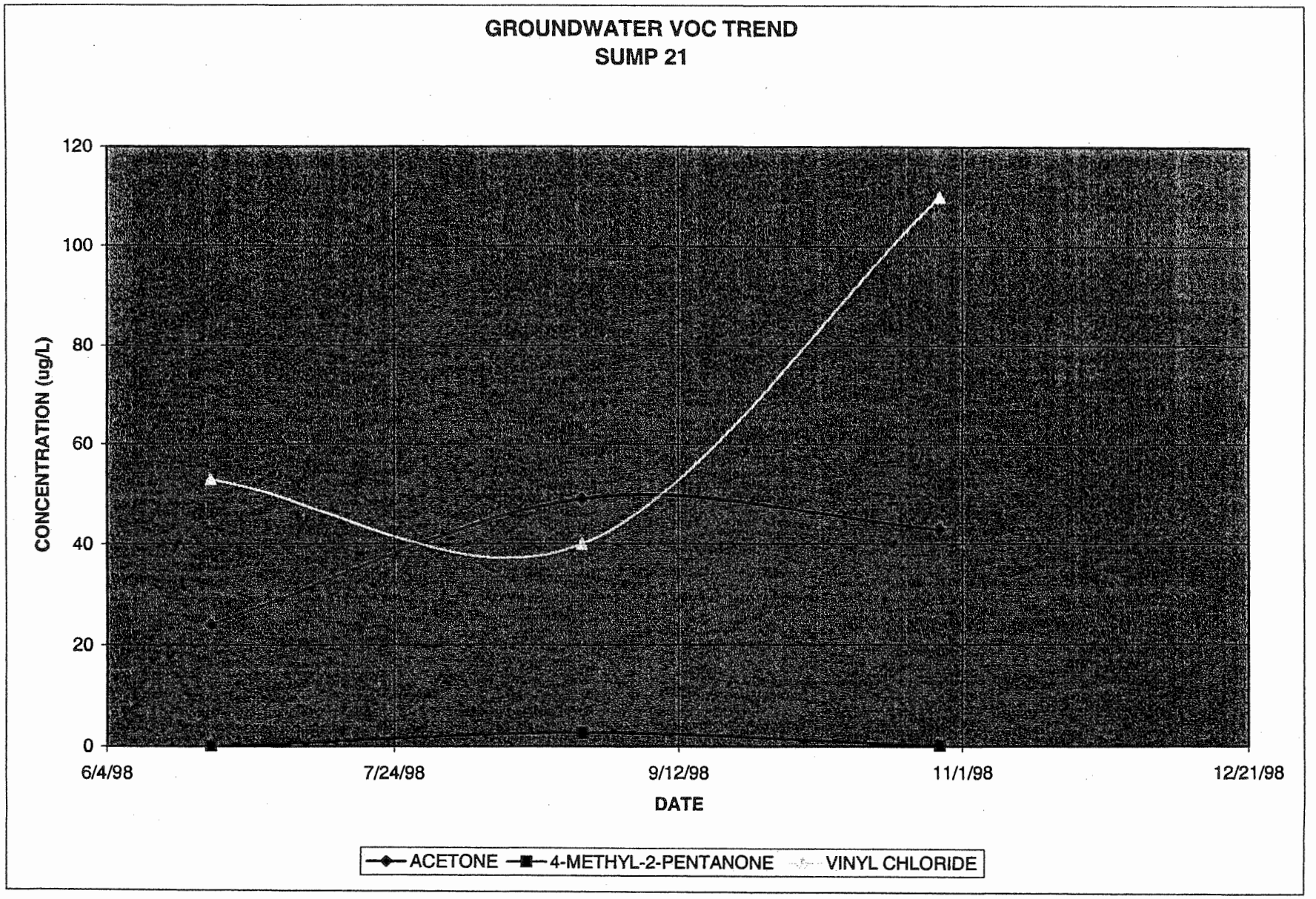

GROUNDWATER VOC TREND
SUMP 20
CONCENTRATION (ug/L)
250
200
150
100
50
0
2/24/98
4/15/98
6/4/98
7/24/98
9/12/98
11/1/98
DATE
BENZENE
ETHYLBENZENE
TOLUENE
TOTAL XYLENES

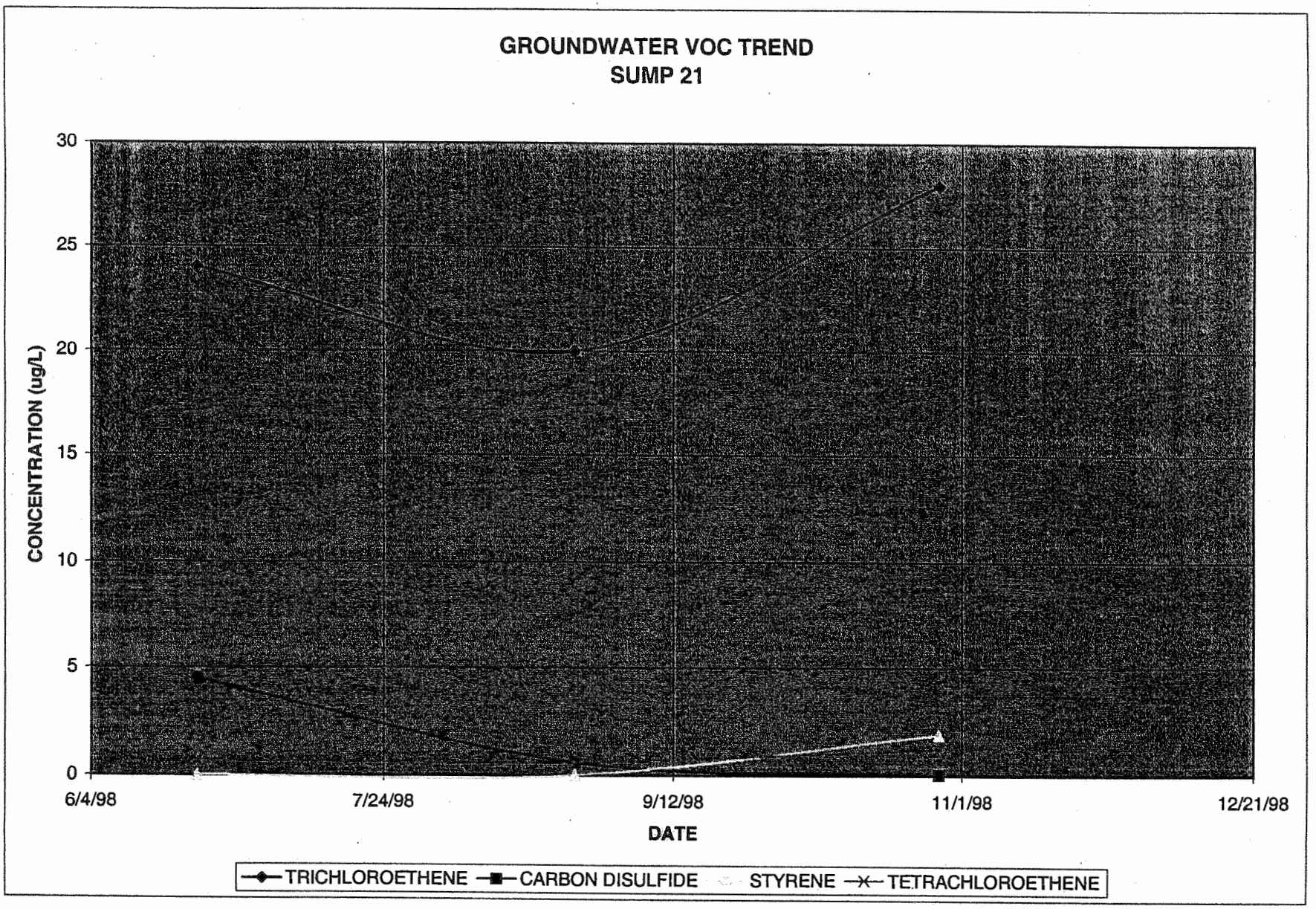

GROUNDWATER VOC TREND
SUMP 20
CONCENTRATION (ug/L)
400
350
300
250
200
150
100
50
0
2/24/98
4/15/98
6/4/98
7/24/98
9/12/98
11/1/98
DATE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
CHLOROBENZENE

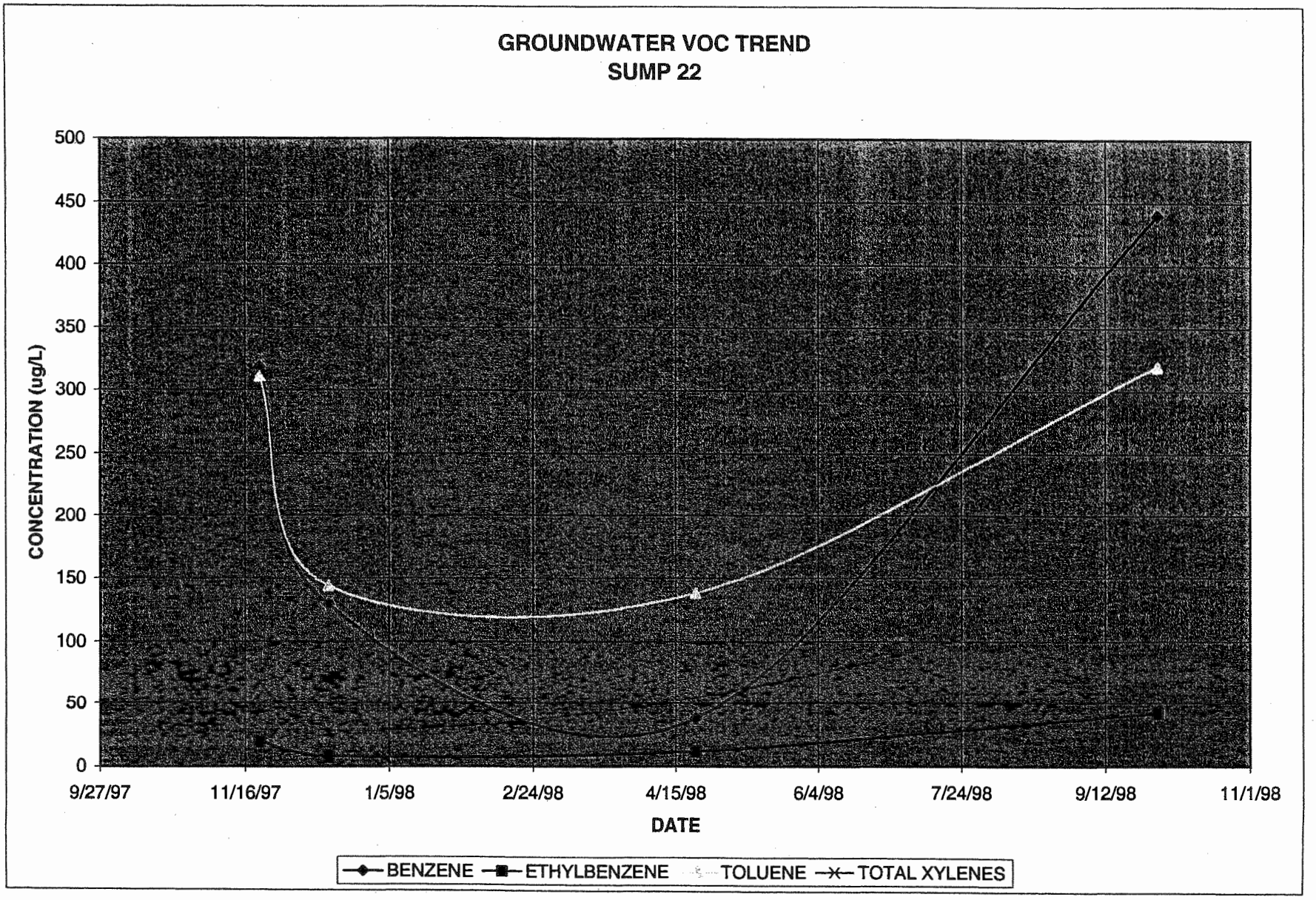

GROUNDWATER VOC TREND
SUMP 20
CONCENTRATION (ug/L)
100
90
80
70
60
50
40
30
20
10
0
2/24/98
4/15/98
6/4/98
7/24/98
9/12/98
11/1/98
DATE
4-METHYL-2-PENTANONE
VINYL CHLORIDE
TRICHLOROETHENE

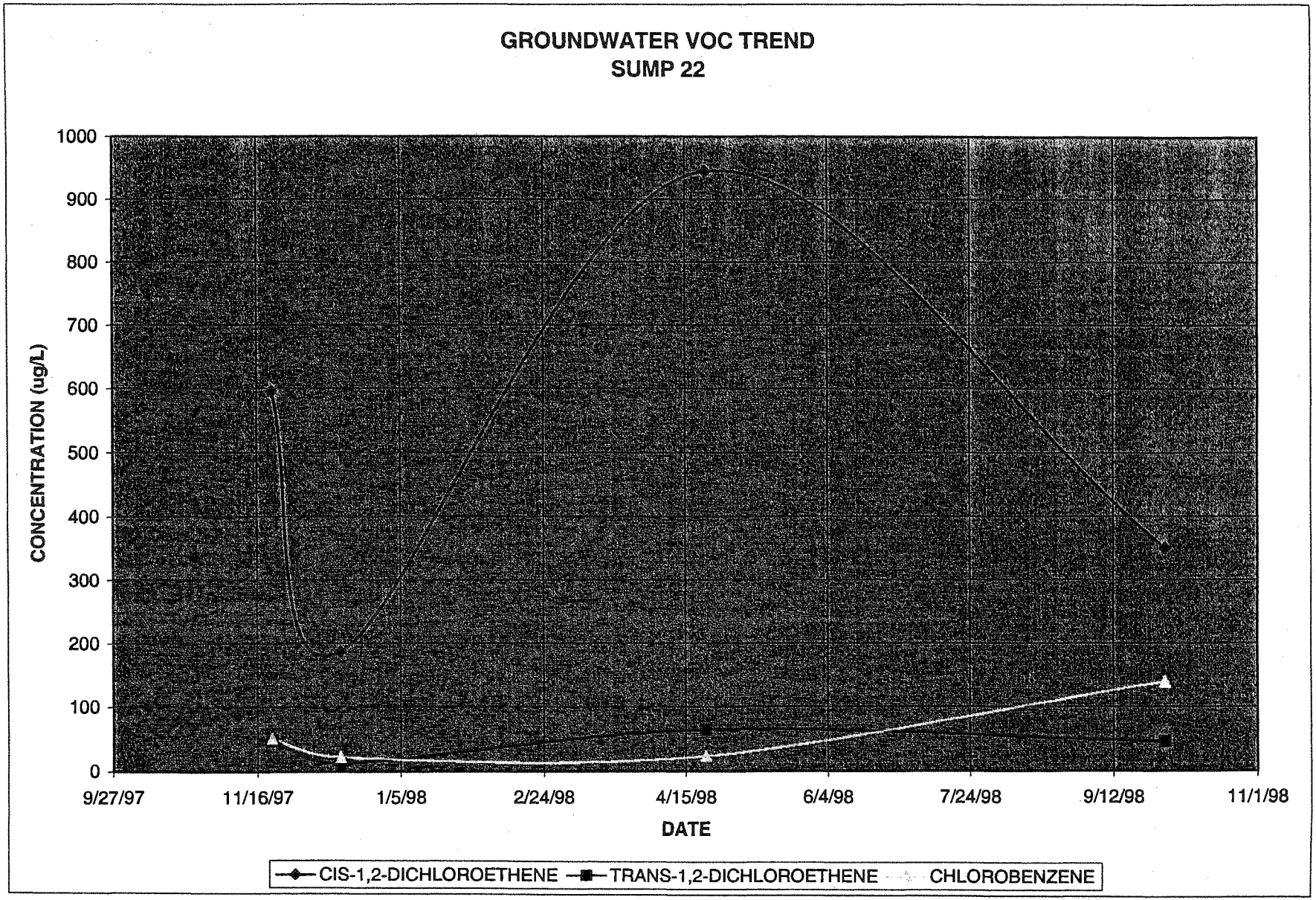

GROUNDWATER VOC TREND
SUMP 21
CONCENTRATION (ug/L)
250
200
150
100
50
0
6/4/98
7/24/98
9/12/98
11/1/98
12/21/98
DATE
BENZENE
ETHYLBENZENE
TOLUENE
TOTAL XYLENES


GROUNDWATER VOC TREND
SUMP 21
CONCENTRATION (ug/L)
140
120
100
80
60
40
20
0
6/4/98
7/24/98
9/12/98
11/1/98
12/21/98
DATE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
CHLOROBENZENE


GROUNDWATER VOC TREND
SUMP 21
CONCENTRATION (ug/L)
120
100
80
60
40
20
0
6/4/98
7/24/98
9/12/98
11/1/98
12/21/98
DATE
ACETONE
4-METHYL-2-PENTANONE
VINYL CHLORIDE


GROUNDWATER VOC TREND
SUMP 21
CONCENTRATION (ug/L)
30
25
20
15
10
5
0
6/4/98
7/24/98
9/12/98
11/1/98
12/21/98
DATE
TRICHLOROETHENE
CARBON DISULFIDE
STYRENE
TETRACHLOROETHENE


GROUNDWATER VOC TREND
SUMP 22
CONCENTRATION (ug/L)
500
450
400
350
300
250
200
150
100
50
0
9/27/97
11/16/97
1/5/98
2/24/98
4/15/98
6/4/98
7/24/98
9/12/98
11/1/98
DATE
BENZENE
ETHYLBENZENE
TOLUENE
TOTAL XYLENES


GROUNDWATER VOC TREND
SUMP 22
CONCENTRATION (ug/L)
1000
900
800
700
600
500
400
300
200
100
0
9/27/97
11/16/97
1/5/98
2/24/98
4/15/98
6/4/98
7/24/98
9/12/98
11/1/98
DATE
CIS-1,2-DICHLOROETHENE
TRANS-1,2-DICHLOROETHENE
CHLOROBENZENE

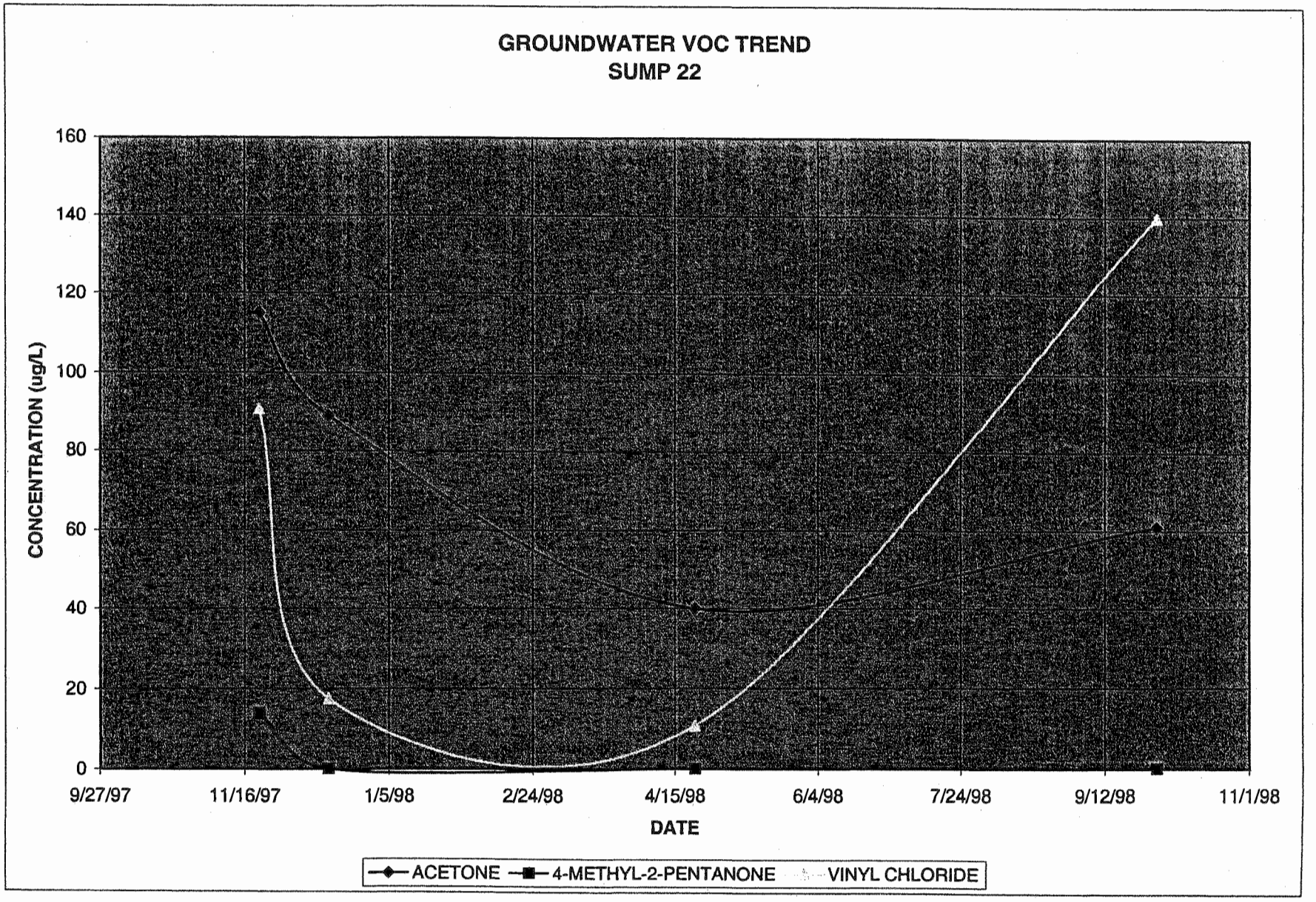

GROUNDWATER VOC TREND
SUMP 22
CONCENTRATION (ug/L)
160
140
120
100
80
60
40
20
0
9/27/97
11/16/97
1/5/98
2/24/98
4/15/98
6/4/98
7/24/98
9/12/98
11/1/98
DATE
ACETONE
4-METHYL-2-PENTANONE
VINYL CHLORIDE

TABLE A-9

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

TABLE A-9

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

LTTD FILTER CAKE

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SL-01-X	FC-100-X
Laboratory Sample No.	D96-13389-5	D97-7406-1
Depth (feet)	0-0.5	0-0.5
Type	FILTER CAKE	FILTER CAKE
Date Collected	11/21/96	6/16/97
Compound (mg/kg)		
cPAHs		
Benzo(a)anthracene	88.3	204
Benzo(b)fluoranthene	81.4	213
Benzo(k)fluoranthene	33.5	68
Benzo(a)pyrene	50.5	108
Chrysene	92.6	217
Dibenz(a,h)anthracene	8.37	17
Indeno(1,2,3-cd)pyrene	<30.5	42.3
Total cPAHs	355	869.3
Total PCBs	658	1030
Lead	360	11.6
Mercury	3.25	NA
Arsenic	NA	363
TCLP Arsenic (mg/l)	NA	<0.100
TCLP Lead (mg/l)	NA	<0.100

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

NA - Not Analyzed

EPA Method 8270 - carcinogenic Polycyclic Hydrocarbons (cPAHs)

EPA Method 7060 - Arsenic

EPA Method 7421 - Lead

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

LTTD CARBON

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	CA-1C
Laboratory Sample No.	D97-5962-1
Depth (feet)	0-0.5
Type	CARBON
Date Collected	5/14/97
Compound (mg/kg)	
VOLATILES	
1,1,2,2-Tetrachloroethane	<34
Total Volatiles	658
cPAHs	
Benzo(a)anthracene	<17.8
Benzo(b)fluoranthene	<17.8
Benzo(k)fluoranthene	<17.8
Benzo(a)pyrene	<4.45
Chrysene	<17.8
Dibenz(a,h)anthracene	<4.45
Indeno(1,2,3-cd)pyrene	<17.8
Total cPAHs	<17.8
Total PCBs	63.3

NOTES:

All analyses performed by Inchcape Testing Services; NJDEP Laboratory Certification No. 82716

EPA Method 8240 - VOCs

EPA Method 8270 - carcinogenic Polycyclic Hydrocarbons (cPAHs)

EPA Method 7421 - Lead

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

TEMPORARY WTP CARBON

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Drum Sample	Drum Sample1030a
Lab Report No.	93012	93013
Lab Sample No.	I608	I608
Depth (feet)	N/A	N/A
Type	Carbon	Carbon
Date Collected	10/28/98	10/28/98
Compound (mg/kg)		
VOLATILES		
Chloromethane	1.7(J)	<2.8
Bromomethane	<3	<2.8
Vinyl chloride	1.1(J)	7.0
Chloroethane	<3	<2.8
Methylene chloride	<1.8	<1.7
Acetone	NA	NA
Carbon disulfide	NA	NA
1,1-Dichloroethene	<1.2	<1.1
1,1-Dichloroethane	<3	<2.8
cis -1,2-Dichloroethene	50.0	72.0
trans-1,2-Dichloroethene	3.6	4.6
Chloroform	1.4(J)	1.5(J)
1,2-Dichloroethane	2.8	3.9
2-Butanone	NA	NA
1,1,1-Trichloroethane	<3	<2.8
Carbon tetrachloride	<1.2	<1.1
Bromodichloromethane	<0.590	<0.570
1,2-Dichloropropane	<0.590	<0.570
cis-1,3-Dichloropropene	<3	<2.8
Trichloroethene	26.0	26.0
Chlorodibromomethane	<3	<2.8
1,1,2-Trichloroethane	0.5(J)	0.650(J)
Benzene	3.2	7.1
trans-1,3-Dichloropropene	<3	<2.8
Bromoform	<2.4	<2.3
4-Methyl-2-pentanone	NA	NA
2-Hexanone	NA	NA
Tetrachloroethene	0.8	0.9
Toluene	1.6(J)	2.6(J)
1,1,2,2-Tetrachloroethane	1.1	11.0
Chlorobenzene	1.0(J)	2.6(J)
Ethylbenzene	0.460(J)	0.940(J)
Styrene	NA	NA
Total Xylenes	1.2(J)	2.0(J)
Total VOCs	96.5	142.8
METALS		
Lead	28.8	47.1

NOTES:

All analyses performed by Envirotech Research, Inc.;

NJDEP Laboratory Certification No. 12543.

NA - Not Analyzed

(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.

EPA Method 8260 - VOCs

EPA Method 7421 - Lead

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

TEMPORARY WTP CARBON

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Lab Report No.	93012	93013
Lab Sample No.	I608	I608
Depth (feet)	N/A	N/A
Type	Carbon	Carbon
Date Collected	10/28/98	10/28/98
Compound (mg/kg)		
PAHs		
Naphthalene	0.230(J)	0.660(J)
Acenaphthylene	<1.1	<1.80
Acenaphthene	<1.1	<1.80
Fluorene	<1.1	0.083(J)
Phenanthrene	<1.1	<1.80
Anthracene	<1.1	<1.80
Fluoranthene	0.110(J)	0.290(J)
Pyrene	0.079(J)	0.250(J)
Benzo(a)anthracene	<0.110	<0.180
Chrysene	<1.1	<1.80
Benzo(b)fluoranthene	<0.110	<0.180
Benzo(k)fluoranthene	<0.110	<0.180
Benzo(a)pyrene	<0.110	<0.180
Indeno(1,2,3-cd)pyrene	<0.110	<0.180
Dibenz(a,h)anthracene	<0.110	<0.180
Benzo(g,h,i)perylene	<1.1	<1.80
Total PCBs	2	3

NOTES:

All analyses performed by Envirotech Research, Inc.;

NJDEP Laboratory Certification No. 12543.

N/A - Not Applicable

(J) - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.

EPA Method 8082 - Polychlorinated Biphenyls (PCBs)

EPA Method 8270 - Polycyclic Aromatic Hydrocarbons (PAHs)

TABLE A-9 (Cont'd)
OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS
DRUM CARCASSES
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	DRM1 9-29-98	DRM2 9-29-98
Lab Report No.	H711	H711
Lab Sample No.	86857	86858
Depth (feet)	N/A	N/A
Type	Residue	Residue
Date Collected	9/29/98	9/29/98
Compound (ug/kg)		
VOLATILES		
Chloromethane	<6.8	<7.5
Bromomethane	<6.8	<7.5
Vinyl chloride	<6.8	<7.5
Chloroethane	<6.8	<7.5
Methylene chloride	2.2J	2.4J
Trichlorofluoromethane	<6.8	<7.5
1,1-Dichloroethene	<2.7	<3.0
1,1-Dichloroethane	<6.8	<7.5
cis -1,2-Dichloroethene	<6.8	<7.5
trans-1,2-Dichloroethene	<6.8	<7.5
Chloroform	<6.8	<7.5
1,2-Dichloroethane	<2.7	<3.0
1,1,1-Trichloroethane	<6.8	<7.5
Carbon tetrachloride	<2.7	<3.0
Bromodichloromethane	<1.4	<1.5
1,2-Dichloropropane	<1.4	<1.5
cis-1,3-Dichloropropene	<6.8	<7.5
Trichloroethene	<1.4	<1.5
Chlorodibromomethane	<6.8	<7.5
1,1,2-Trichloroethane	<4.1	<4.5
Benzene	1.0J	<1.5
trans-1,3-Dichloropropene	<6.8	<7.5
2-Chloroethyl Vinyl Ether	<6.8	<7.5
Bromoform	<5.4	<6.0
Tetrachloroethene	<1.4	<1.5
Toluene	9.6	1.2J
1,1,2,2-Tetrachloroethane	<1.4	<1.5
Chlorobenzene	<6.8	<7.5
Ethylbenzene	1.2J	<6.0
Total Xylenes	5.9J	<7.5

NOTES:
All analyses performed by Envirotech Research, Inc., NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
J - Indicates an estimated value. This flag is used if the compound is detected but is below the Reporting Limit.
EPA Method 8260 - VOCs

TABLE A-9 (Cont'd)
OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS
DRUM CARCASSES
UOP - AREAS 1, 1A AND 5
REMEDIAL ACTION REPORT

Field Sample No.	DRM1 9-29-98	DRM2 9-29-98
Lab Report No.	H711	H711
Lab Sample No.	86857	86858
Depth (feet)	N/A	N/A
Type	Residue	Residue
Date Collected	9/29/98	9/29/98
Compound (ug/kg)		
BNAs		
N-Nitrosodimethylamine	<500	<510
Phenol	<500	<510
Bis(2-chloroethyl)ether	<50	<51
2-Chlorophenol	<500	<510
1,3-Dichlorobenzene	<500	<510
1,4-Dichlorobenzene	<500	<510
1,2-Dichlorobenzene	<500	<510
Bis(2-chloroisopropyl)ether	<500	<510
N-Nitroso-di-n-propylamine	<50	<51
Hexachloroethane	<50	<51
Nitrobenzene	<50	<51
Isophorone	<500	<510
bis(2-Chloroethoxy)methane	<500	<510
2,4-Dimethylphenol	<500	<510
2-Nitrophenol	<500	<510
2,4-Dichlorophenol	<500	<510
4-Chloro-3-methylphenol	<500	<510
1,2,4-Trichlorobenzene	<50	<51
Naphthalene	<500	<510
Hexachlorobutadiene	<99	<100
Hexachlorocyclopentadiene	<500	<510
2-Chloronaphtalene	<500	<510
2,4,6-Trichlorophenol	<500	<510
Dimethylphthalate	<500	<510
2,6-Dinitrotoluene	<99	<100
Acenaphthene	<500	<510
Acenaphthylene	<500	<510
2,4-Dinitrophenol	<2000	<2000
4-Nitrophenol	<2000	<2000
2,4-Dinitrotoluene	<99	<100
Diethylphthalate	<500	<510
4-Chlorophenyl-phenylether	<500	<510
Fluorene	<500	<510
4,6-Dinitro-2-methylphenol	<2000	<2000
N-Nitrosodiphenylamine	<500	<510
4-Bromophenyl-phenylether	<500	<510
Hexachlorobenzene	<50	<51
Pentachlorophenol	<2000	<2000
Phenanthrene	<500	<510
Anthracene	<500	<510
Di-n-butylphthalate	<500	<510

NOTES:
All analyses performed by Envirotech Research, Inc., NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - BNAs

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

DRUM CARCASSES

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	DRM1 9-29-98	DRM2 9-29-98
Lab Report No.	H711	H711
Lab Sample No.	86857	86858
Depth (feet)	N/A	N/A
Type	Residue	Residue
Date Collected	9/29/98	9/29/98
Compound (ug/kg)		
BNAs		
Fluoranthene	<500	<510
Benzidine	<2000	<2000
Pyrene	<500	<510
Butylbenzylphthalate	<500	<510
bis(2-Ethylhexyl)phthalate	<500	<510
Di-n-octylphthalate	<500	<510
3,3'-Dichlorobenzidine	<990	<1000
Benzo(a)anthracene	<50	<51
Chrysene	<500	<510
Benzo(b)fluroanthene	<50	<51
Benzo(k)fluoranthene	<50	<51
Benzo(a)pyrene	<50	<51
Indeno(1,2,3-cd)pyrene	<50	<51
Dibenz(a,h)anthracene	<50	<51
Benzo(g,h,i)perylene	<500	<510
PCBs		
Aroclor 1016	<100	<100
Aroclor 1221	<100	<100
Aroclor 1232	<100	<100
Aroclor 1242	<100	<100
Aroclor 1248	<100	<100
Aroclor 1254	<100	<100
Aroclor 1260	<100	<100
Aroclor 1262	<100	<100
Aroclor 1268	<100	<100

NOTES:
All analyses performed by Envirotech Research Inc., NJDEP Laboratory Certification No. 12543.
N/A - Not Applicable
EPA Method 625 - BNAs
EPA Method 608 - PCBs

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

DRUM CARCASSES

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	DRM1 9-29-98	DRM2 9-29-98
Lab Report No.	H711	H711
Lab Sample No.	86857	86858
Depth (feet)	N/A	N/A
Type	Residue	Residue
Date Collected	9/29/98	9/29/98
Compound (ug/kg)		
Pesticides		
Aldrin	<10	<10
alpha-BHC	<10	<10
beta-BHC	<10	<10
delta-BHC	<10	<10
gamma-BHC (Lindane)	<10	<10
Chlordane	<100	<100
4,4' - DDD	<10	<10
4,4' - DDE	<10	<10
4,4' - DDT	<10	<10
Dieldrin	<10	<10
Endosulfan I	<10	<10
Endosulfan II	<10	<10
Endosulfan sulfate	<10	<10
Endrin	<10	<10
Endrin aldehyde	<10	<10
Heptachlor	<10	<10
Heptachlor epoxide	<10	<10
Toxaphene	<100	<100

NOTES:

All analyses performed by Envirotech Research, Inc., NJDEP Laboratory Certification No. 12543.

N/A - Not Applicable

EPA Method 8081A - Pesticides

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

DRUM CARCASSES

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	DRM1 9-29-98	DRM2 9-29-98
Lab Report No.	H711	H711
Lab Sample No.	86857	86858
Depth (feet)	N/A	N/A
Type	Residue	Residue
Date Collected	9/29/98	9/29/98
Compound (mg/kg)		
Metals		
Antimony	<1.4	<1.4
Arsenic	<1.1	<1.2
Beryllium	<0.060	<0.062
Cadmium	<0.12	<0.12
Chromium	<0.30	8.2
Copper	1.9	1.4
Lead	<0.75	3.7
Mercury	0.06	<0.026
Nickel	<0.63	0.77
Selenium	<1.4	<1.5
Silver	<0.42	<0.43
Thallium	<1.4	<1.5
Zinc	2.7	10.2
Reactive Cyanide	ND	ND
Reactive Sulfide	ND	ND
Corrosivity (pH)	5.21	7.02
Ignitability	>160 Degrees F	>160 Degrees F

NOTES:
All analyses performed by Envirotech Research Inc., NJDEP Laboratory Certification 12543.
ND - Not Detected
N/A - Not Applicable

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

PCB/cPAH EXCAVATED SOILS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ESTS-1	ESTS-2	ESTS-3	ESTS-4	ESTS-5	ESTS-6	Federal Limits
Laboratory Sample No.	D97-5832-1	D97-5832-2	D97-5832-3	D97-5832-4	D97-5832-5	D97-5832-6	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	5/13/97	5/13/97	5/13/97	5/13/97	5/13/97	5/13/97	
Compound (mg/kg)							
Total PCBs	34.9	30.7	27	7.52	113*	76.8*	50 mg/kg (TSCA)
TCLP Lead	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	5 mg/l

NOTES:

All analyses performed by Intertek Testing Services. NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - TCLP Lead

* - Concentration exceeds Federal Limit

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

PCB/cPAH EXCAVATED SOILS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ESTS-7	ESTS-8	ESTS-9	ESTS-10	ESTS-11	ESTS-12	Federal Limits
Laboratory Sample No.	D97-5832-7	D97-5832-8	D97-5832-9	D97-5832-10	D97-5832-11	D97-5832-12	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	5/13/97	5/13/97	5/13/97	5/13/97	5/13/97	5/13/97	
Compound (mg/kg)							
Total PCBs	64.9*	59.4*	72.1*	76*	24.3	20.2	50 mg/kg (TSCA)
TCLP Lead	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	5 mg/l

NOTES:

All analyses performed by Intertek Testing Services. NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - TCLP Lead

* - Concentration exceeds Federal Limit

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

PCB/cPAH EXCAVATED SOILS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ESTS-13	ESTS-14	ESTS-15	ESTS-16	ESTS-17	ESTS-18	Federal Limits
Laboratory Sample No.	D97-5832-13	D97-5832-14	D97-5832-15	D97-5832-16	D97-5832-17	D97-5832-18	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	5/13/97	5/13/97	5/13/97	5/13/97	5/13/97	5/13/97	
Compound (mg/kg)							
Total PCBs	11.8	31.1	19	34.2	36	27.4	50 mg/kg (TSCA)
TCLP Lead	0.3	<0.200	<0.300	<0.200	<0.200	<0.200	5 mg/l

NOTES:

All analyses performed by Intertek Testing Services. NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - TCLP Lead

TABLE A-9 (Cont'd)

OFF-SITE DISPOSAL WASTE CHARACTERIZATION RESULTS

PCB/cPAH EXCAVATED SOILS

UOP - AREAS 1, 1A AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ESTS-19	ESTS-20	ESTS-21	ESTS-22	ESTS-23	ESTS-24	ESTS-25	Federal Limits
Laboratory Sample No.	D97-5832-19	D97-5832-20	D97-5832-21	D97-5832-22	D97-5832-23	D97-5832-24	D97-5832-25	
Depth (feet)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	
Type	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	Soil/Composite	
Date Collected	5/13/97	5/13/97	5/13/97	5/13/97	5/13/97	5/13/97	5/13/97	
Compound (mg/kg)								
Total PCBs	32.7	30.4	26.7	42.5	28.2	53.7*	38.4	50 mg/kg (TSCA)
TCLP Lead	<0.200	0.218	<0.200	<0.200	<0.200	<0.200	<0.200	5 mg/l

NOTES:

All analyses performed by Intertek Testing Services. NJDEP Laboratory Certification No. 82716

EPA Method 8080 - Polychlorinated Biphenyls (PCBs)

EPA Method 6010 - TCLP Lead

* - Concentration exceeds Federal Limit

TABLE A-10

QUALITY ASSURANCE/QUALITY CONTROL RESULTS (SOIL)

TABLE A-10

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	SSC01AN	SSC01AM	SSC-20-AM	SSC-20-AN	SSC-26-AE	SSC-35-AM	SSC-35-AN	SSC-30-AE
Laboratory Sample No.	D96-4270-2	D96-4270-3	D96-4637-3	D96-4637-4	D96-4717-4	D96-4968-9	D96-4968-10	D96-4968-12
Depth (feet)	0-2 ft	0-2 ft	0-2 ft	0-2 ft	N/A	0-2 ft	0-2 ft	N/A
Type	Grab/Soil	Grab/Soil	Composite/Soil	Composite/Soil	Liquid	Composite/Soil	Composite/Soil	Composite/Liquid
Date Collected	04/18/96	04/18/96	04/30/96	04/30/96	05/01/96	05/07/96	05/07/96	05/07/96
Compound (mg/kg) see note 2								
VOLATILES								
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA
cPAHs								
Benzo(a)anthracene	3.72	3.86	2.69	3.84	NA	5.4	5.42	<10.0
Benzo(b)fluoranthene	3.6	4.18	2.85	4.22	NA	6.12	5.97	<10.0
Benzo(k)fluoranthene	2.96	2.59	2.63	3.25	NA	4.73	5.03	<10.0
Benzo(a)pyrene	3.37	3.64	2.66	3.76	NA	5.41	5.4	<10.0
Chrysene	3.39	3.71	2.77	3.8	NA	5.31	5.36	<10.0
Dibenz(a,h)anthracene	2.11	1.96	2.23	2.92	NA	5.13	5.21	<10.0
Indeno(1,2,3-cd)pyrene	2.92	2.81	2.38	3.09	NA	5.17	5.19	<10.0
Total cPAHs	22.1	22.8	18.3	24.9	NA	37.3	37.5	<10.0
Total PCBs	1.1	1.11	1.18	1.05	<0.50	0.619	0.582	<0.500
Total Lead	219	302	1530	1340	<2.0	282	243	<2.0

NOTES:

1. All analyses performed by Inchcape Testing Services. Lab Certification No. 82716
2. Samples with the special qualifier "E" are reported in ug/L.
3. EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb
4. Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	LTI-01-EM	LTI-01-EN	ISG-15-AM	ISG-05-AE	ISG-15-AN	ISA-01-AE	ISA-09-AM	ISA-09-AN
Laboratory Sample No.	D96-5460-3	D96-5460-4	D96-6224-11	D96-6224-26	D96-6224-29	D96-6270-19	D96-6270-21	D96-6270-22
Depth (feet)	N/A	N/A	0-2 ft	N/A	0-2 ft	N/A	0-2 ft	0-2 ft
Type	Grab/Soil	Grab/Soil	Grab/Soil	Liquid	Grab/Soil	Liquid/Grab	Soil/Grab	Soil/Grab
Date Collected	05/16/96	05/16/96	06/10/96	06/10/96	06/10/96	06/11/96	06/11/96	06/11/96
Compound (mg/kg) see note 2								
VOLATILES								
1,1,2,2-Tetrachloroethane	0.215	0.44	NA	NA	NA	NA	NA	NA
Total VOCs	14.8	19.2	NA	NA	NA	NA	NA	NA
cPAHs								
Benzo(a)anthracene	5.45	5.98	1.86	<10.0	1.97	<10.0	<4.31	<4.08
Benzo(b)fluoranthene	5.97	6.11	1.52	<10.0	2.2	<10.0	<4.31	<4.08
Benzo(k)fluoranthene	4.83	6.22	1.66	<10.0	2.35	<10.0	<4.31	<4.08
Benzo(a)pyrene	5.47	5.99	1.49	<10.0	2.07	<10.0	2.64	2.23
Chrysene	5.08	5.8	1.85	<10.0	2.01	<10.0	<4.31	<4.08
Dibenz(a,h)anthracene	5.57	6.02	1.42	<10.0	1.99	<10.0	2	2.13
Indeno(1,2,3-cd)pyrene	5.49	5.99	1.44	<10.0	2.12	<10.0	<4.31	<4.08
Total cPAHs	37.9	42.1	11.2	<10.0	14.7	<10.0	4.63	4.36
Total PCBs	1.44	1.46	1.75	NA	1.84	<0.50	NA	NA
Total Lead	452	154	NA	<2.0	NA	NA	NA	NA

NOTES:

1. All analyses performed by Inchcape Testing Services. Lab Certification No. 82716
2. Samples with the special qualifier "E" are reported in ug/L.
3. EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb
3. Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ISA-14-AM	ISA-14-AN	ISA-28AM	ISA-28AN	ISA-24AE	ISA-28AM	ISA-28AN	ISA-19AM
Laboratory Sample No.	D96-6270-28	D96-6270-29	D96-6313-8	D96-6313-9	D96-6313-10	D96-6803-6	D96-6803-7	D96-6582-2
Depth (feet)	0-2 ft	0-2 ft	0-2 ft	0-2 ft	N/A	0-2 ft	0-2 ft	0-2 ft
Type	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Liquid/Grab	Grab/Soil	Grab/Soil	Grab/Soil
Date Collected	06/11/96	06/11/96	06/12/96	06/12/96	06/12/96	06/12/96	06/12/96	06/18/96
Compound (mg/kg) see note 2								
VOLATILES								
1,1,2,2-Tetrachloroethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.047
Total VOCs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.63
cPAHs								
Benzo(a)anthracene	3.95	4.15	6.79	6.75	<10.0	NA	NA	NA
Benzo(b)fluoranthene	4.46	4.3	6.77	7.45	<10.0	NA	NA	NA
Benzo(k)fluoranthene	3.75	4.34	7.18	7	<10.0	NA	NA	NA
Benzo(a)pyrene	3.97	4.23	6.4	6.65	<10.0	NA	NA	NA
Chrysene	4.08	4.31	6.62	6.67	<10.0	NA	NA	NA
Dibenz(a,h)anthracene	3.79	4.07	6.16	5.97	<10.0	NA	NA	NA
Indeno(1,2,3-cd)pyrene	3.83	4.12	6.01	5.7	<10.0	NA	NA	NA
Total cPAHs	27.8	29.6	45.9	46.2	<10.0	NA	NA	NA
Total PCBs	NA	NA	NA	NA	<0.50	55.9	43.7	NA
Total Lead	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

1. All analyses performed by Inchcape Testing Services. Lab Certification No. 82716
2. Samples with the special qualifier "E" are reported in ug/L.
3. EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb
4. Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ISA-19-AN	ICA-21AE	ISI-07-AE	ES-N-01-AM	ES-N-01-AN	ES-N-01-AE	EWO-01-AM	EWO-01-AN
Laboratory Sample No.	D96-6582-5	D96-6582-11	D96-6820-12	D96-6627-10	D96-6627-11	D96-6627-18	D96-6893-1	D96-6893-10
Depth (feet)	0-2 ft	N/A	N/A	0-2 ft	0-2 ft	N/A	0-2 ft	0-2 ft
Type	Grab/Soil	Grab/Liquid	Grab/Liquid	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab
Date Collected	06/18/96	06/18/96	06/18/96	06/19/96	06/19/96	06/19/96	06/25/96	06/25/96
Compound (mg/kg) see note 2								
VOLATILES								
1,1,2,2-Tetrachloroethane	0.053	<5.00	NA	NA	NA	NA	NA	NA
Total VOCs	1.9	<100	NA	NA	NA	NA	NA	NA
cPAHs								
Benzo(a)anthracene	NA	NA	<10.0	7.48	6.94	<10	43.6	24.8
Benzo(b)fluoranthene	NA	NA	<10.0	8.23	7.42	<10	46.7	25.8
Benzo(k)fluoranthene	NA	NA	<10.0	7.49	7.55	<10	41.1	27.5
Benzo(a)pyrene	NA	NA	<10.0	7.67	6.98	<10	42	24.5
Chrysene	NA	NA	<10.0	7	6.09	<10	41.1	25.2
Dibenz(a,h)anthracene	NA	NA	<10.0	6.76	6.03	<10	39.2	22.7
Indeno(1,2,3-cd)pyrene	NA	NA	<10.0	7.15	6.62	<10	38	21.7
Total cPAHs	NA	NA	<10.0	51.8	47.6	<10	292	172
Total PCBs	NA	NA	<0.50	2.58	2.08	<0.50	35.8	15.3
Total Lead	NA	NA	NA	95.1	239	<2.0	NA	NA

NOTES:

1. All analyses performed by Inchcape Testing Services. Lab Certification No. 82716
2. Samples with the special identifier "E" are reported in ug/L.
3. EPA Method 8240 (VOA), EPA Method 8270B (cPAH), EPA Method 8080 (PCB), EPA Method 6010 (Pb)
4. Special Identifiers: M = Matrix Spike; N = Matrix Spike Duplicate; E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWO-01-AE	EWH-01-AX2M	EWH-01-AX2N	EWG-01-AX3E	EWG-02-AX17M	EWG-02-AX17N	EWG-02-AX11E	EWG-03-AX3AE
Laboratory Sample No.	D96-6893-11	D96-7380-7	D96-7380-8	D96-7380-19	D96-7581-9	D96-7581-10	D96-7620-10	D96-7771-9
Depth (feet)	NA	0-2 ft	0-2 ft	NA	0-2 ft	0-2 ft	NA	NA
Type	Liquid/Grab	Soil/Grab	Soil/Grab	Liquid/Grab	Soil/Grab	Soil/Grab	Liquid/Grab	Liquid/Grab
Date Collected	06/25/96	07/08/96	07/08/96	07/08/96	07/11/96	07/11/96	07/12/96	07/16/96
Compound (mg/kg)								
VOLATILES								
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA
cPAHs								
Benzo(a)anthracene	<19	4.05	3.86	NA	2.55	2.59	<10.0	<10
Benzo(b)fluoranthene	<19	4.34	4.11	NA	2.57	2.4	<10.0	<10
Benzo(k)fluoranthene	<19	3.85	3.93	NA	2.52	2.68	<10.0	<10
Benzo(a)pyrene	<19	3.78	3.64	NA	2.5	2.5	<10.0	<10
Chrysene	<19	3.88	3.79	NA	2.61	2.64	<10.0	<10
Dibenz(a,h)anthracene	<19	3.15	2.85	NA	2.98	2.92	<10.0	<10
Indeno(1,2,3-cd)pyrene	<19	2.95	2.66	NA	2.91	2.8	<10.0	<10
Total cPAHs	<19	26	24.8	NA	18.6	18.5	<10.0	<10
Total PCBs	<1.00	1.39	0.669	<0.50	0.435	0.474	<0.500	<0.50
Total Lead	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special identifier "E" results are in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWH-01-AX6AM	EWH-01-AX6AN	EWA-01-AX16M	EWA-01-AX16N	EWH-01-AX3E	WG-03A-AX8B	WG-03A-AX8B	EWI-03A-AX1M
Laboratory Sample No.	D96-7775-13	D96-7775-14	D96-7835-15	D96-7835-16	D96-7947-6	D96-8395-1	D96-8395-2	D96-8497-5
Depth (feet)	0-2 ft	0-2 ft	0-2 ft	0-2 ft	NA	0-2 ft	0-2 ft	0-2 ft
Type	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Liquid/Grab	Soil/Grab	Soil/Grab	Soil/Grab
Date Collected	07/16/96	07/16/96	07/17/96	07/17/96	07/18/96	07/30/96	07/30/96	08/01/96
Compound (mg/kg)								
VOLATILES								
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA
cPAHs								
Benzo(a)anthracene	3.83	3.82	4.44	3.93	<10	2.47	2.53	3.9
Benzo(b)fluoranthene	4.16	4.42	4.55	4.71	<10	2.42	2.39	4.21
Benzo(k)fluoranthene	3.38	3.66	5.66	4.63	<10	2.4	2.52	3.63
Benzo(a)pyrene	3.29	3.77	4.89	4.2	<10	2.35	2.33	3.93
Chrysene	3.33	3.52	4.34	3.77	<10	2.32	2.35	3.92
Dibenz(a,h)anthracene	2.36	2.73	5.43	4.25	<10	2.21	2.39	3.04
Indeno(1,2,3-cd)pyrene	2.29	2.6	5.21	3.84	<10	2.13	2.3	3.2
Total cPAHs	22.7	24.5	34.5	29.4	<10	16.3	16.8	25.8
Total PCBs	2.36	3.22	49.9	1.83	<10	1.04	0.972	0.315
Total Lead	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special qualifier "E" are reported in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWI-03A-AX1N	EWG-04-AX13E	EWI-03-AX4M	EWI-03-AX4N	EWI-02-AX6E	EWA-03-AX3E	EWA-03-AX14M	EWA-03-AX14N
Laboratory Sample No.	D96-8497-6	D96-9151-4	D96-9287-2	D96-9287-3	D96-9287-5	D96-9407-2	D96-9406-12	D96-9406-13
Depth (feet)	0-2 ft	NA	0-2 ft	0-2 ft	NA	NA	0-2 ft	0-2 ft
Type	Soil/Grab	Liquid/Grab	Soil/Grab	Soil/Grab	Liquid/Grab	Liquid/Grab	Soil/Grab	Soil/Grab
Date Collected	08/01/96	08/15/96	08/20/96	08/20/96	08/21/96	08/23/96	08/23/96	08/23/96
Compound (mg/kg)								
VOLATILES								
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA
cPAHs								
Benzo(a)anthracene	4.86	<10	7.78	<3.71	<10.0	<10	3.54	3.65
Benzo(b)fluoranthene	5.29	<10	7.78	<3.71	<10.0	<10	4.23	4.32
Benzo(k)fluoranthene	3.85	<10	5.47	<3.71	<10.0	<10	3.18	3.28
Benzo(a)pyrene	4.72	<10	7.27	3.47	<10.0	<10	3.36	3.33
Chrysene	4.72	<10	7.58	3.73	<10.0	<10	3.3	3.19
Dibenz(a,h)anthracene	3.38	<10	2.93	2.94	<10.0	<10	2.8	2.94
Indeno(1,2,3-cd)pyrene	3.76	<10	5.11	<3.71	<10.0	<10	2.73	3.02
Total cPAHs	30.5	<10	43.9	10.1	<10.0	<10	23.2	23.7
Total PCBs	0.35	<0.50	1.58	1.98	<0.50	<0.50	1.44	2.28
Total Lead	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special qualifier "E" are reported in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWA-04-AX9E	EBB-03-AM	EBB-03-AN	EWA-04D-AX24E	EWA-02A-AX26A	SSC-54-AM	SSC-54-AN	EWA-02-AX7CE
Laboratory Sample No.	D96-9560-12	D96-9732-5	D96-9732-6	D96-9732-17	D96-9847-8	D96-9954-3	D96-9954-4	D96-10022-1
Depth (feet)	NA	0-2 ft	0-2 ft	NA	NA	0-2 ft	0-2 ft	NA
Type	Liquid/Grab	Grab/Soil	Grab/Soil	Grab/Liquid	Liquid/Grab	Grab/Soil	Grab/Soil	Liquid/Grab
Date Collected	08/28/96	9/3/96	9/3/96	9/3/96	09/05/96	09/09/96	09/09/96	09/10/96
Compound (mg/kg)								
VOLATILES								
1,1,2,2-Tetrachloroethane	NA	0.061	0.058	NA	NA	NA	NA	NA
Total VOCs	NA	1.98	1.23	NA	NA	NA	NA	NA
cPAHs								
Benzo(a)anthracene	<100	NA	NA	<10	NA	NA	NA	NA
Benzo(b)fluoranthene	<100	NA	NA	<10	NA	NA	NA	NA
Benzo(k)fluoranthene	<100	NA	NA	<10	NA	NA	NA	NA
Benzo(a)pyrene	<100	NA	NA	<10	NA	NA	NA	NA
Chrysene	<100	NA	NA	<10	NA	NA	NA	NA
Dibenz(a,h)anthracene	<100	NA	NA	<10	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	<100	NA	NA	<10	NA	NA	NA	NA
Total cPAHs	<100	NA	NA	<10	NA	NA	NA	NA
Total PCBs	<0.50	NA	NA	<0.50	<0.50	NA	NA	<0.50
Total Lead	NA	NA	NA	NA	NA	166	213	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special qualifier "E" are reported in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWA-01-AX18A	EWA-01-AX16B	EWA-01-AX16B	WA-01A-AX17C	ESPC-01-BE	ESPC-01-BM	ESPC-01-BN	ESDD-01-AE
Laboratory Sample No.	D96-10098-1	D96-10098-7	D96-10098-8	D96-10625-1	D96-11311-1	D96-11311-5	D96-11311-6	D96-11308-1
Depth (feet)	NA	2-4 ft	2-4 ft	NA	NA	2-4 ft	2-4 ft	NA
Type	Liquid/Grab	Soil/Grab	Soil/Grab	Liquid/Grab	Grab/Liquid	Grab/Soil	Grab/Soil	Liquid/Grab
Date Collected	09/11/96	09/11/96	09/11/96	09/23/96	10/8/96	10/8/96	10/8/96	10/08/96
Compound (mg/kg)								
VOLATILES								
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	0.064	0.072	NA
Total VOCs	NA	NA	NA	NA	NA	2.9	3.04	NA
cPAHs								
Benzo(a)anthracene	NA	NA	NA	NA	<100	43.9	52.8	<100
Benzo(b)fluoranthene	NA	NA	NA	NA	<100	45	56.5	<100
Benzo(k)fluoranthene	NA	NA	NA	NA	<100	38.8	50.9	<100
Benzo(a)pyrene	NA	NA	NA	NA	<100	45.7	57.2	<100
Chrysene	NA	NA	NA	NA	<100	42.2	52.2	<100
Dibenz(a,h)anthracene	NA	NA	NA	NA	<100	41.5	47.8	<100
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	<100	42.3	48.9	<100
Total cPAHs	NA	NA	NA	NA	<100	299	367	<100
Total PCBs	<0.50	0.282	0.258	<0.50	<0.50	89.8	141	<0.50
Total Lead	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special qualifier "E" are reported in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	ESPC-03-BE	ESPC-04-BE	EWA-03A-AX29E	EWA-04B-AX29E	SSC-58-AE	EWA-03B-AX29E	EWA-04C-AX29E	SSC-52-AE
Laboratory Sample No.	D96-11511-4	D96-11511-5	D96-11798-1	D96-11798-2	D96-11798-3	D96-11817-1	D96-11817-2	D96-11817-3
Depth (feet)	NA	NA	NA	NA	NA	NA	NA	NA
Type	Liquid/Grab	Liquid/Grab	Liquid/Grab	Liquid/Grab	Liquid/Grab	Liquid/Grab	Liquid/Grab	Liquid/Grab
Date Collected	10/11/96	10/11/96	10/18/96	10/18/96	10/18/96	10/18/96	10/18/96	10/18/96
Compound (mg/kg)								
VOLATILES								
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA
cPAHs								
Benzo(a)anthracene	<11	<10	<10	<10	NA	<10.0	<10.0	<10.0
Benzo(b)fluoranthene	<11	<10	<10	<10	NA	<10.0	<10.0	<10.0
Benzo(k)fluoranthene	<11	<10	<10	<10	NA	<10.0	<10.0	<10.0
Benzo(a)pyrene	<11	<10	<10	<10	NA	<10.0	<10.0	<10.0
Chrysene	<11	<10	<10	<10	NA	<10.0	<10.0	<10.0
Dibenz(a,h)anthracene	<11	<10	<10	<10	NA	<10.0	<10.0	<10.0
Indeno(1,2,3-cd)pyrene	<11	<10	<10	<10	NA	<10.0	<10.0	<10.0
Total cPAHs	<11	<10	<10	<10	NA	<10.0	<10.0	<10.0
Total PCBs	<0.50	<0.50	<0.50	<10	NA	<0.500	<0.500	NA
Total Lead	NA	NA	NA	NA	<2.0	NA	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special qualifier "E" are reported in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	EWA-01-AX29E	WA-04A-AX29	ESPC-05-EM	ESPC-01-EN	EWE-02C-EM	EWE-02C-EN	TP-010-E	TP-011-D
Laboratory Sample No.	D96-11800-1	D96-1800-2	D96-13079-2	D96-13079-3	D96-14243-2	D96-14243-3	D96-14319-1	D96-14408-2
Depth (feet)	NA	NA	0-8 ft	0-8 ft	N/A	N/A	NA	NA
Type	Liquid/Grab	Liquid/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Composite/Liquid	Composite/Soil
Date Collected	10/18/96	10/18/96	11/14/96	11/14/96	12/11/96	12/11/96	12/11/96	12/13/96
Compound (mg/kg)								
VOLATILES								
1,1,2,2-Tetrachloroethane	NA	NA	0.43	0.464	<0.53	<0.49	NA	NA
Total VOCs	NA	NA	14.7	14.2	10.8	6.54	NA	NA
cPAHs								
Benzo(a)anthracene	<10	<10	4.18	4.08	NA	NA	<10	5.71
Benzo(b)fluoranthene	<10	<10	4.37	5.21	NA	NA	<10	9.33
Benzo(k)fluoranthene	<10	<10	4.28	3.77	NA	NA	<10	4.46
Benzo(a)pyrene	<10	<10	4.12	4.05	NA	NA	<10	7.42
Chrysene	<10	<10	3.93	3.94	NA	NA	<10	6.1
Dibenz(a,h)anthracene	<10	<10	3.34	3.29	NA	NA	<10	1.5
Indeno(1,2,3-cd)pyrene	<10	<10	3.43	3.38	NA	NA	<10	4.32
Total cPAHs	<10	<10	27.6	27.7	NA	NA	<10	38.9
Total PCBs	<0.50	<0.50	7.76	8.68	NA	NA	<0.5	1.68
Total Lead	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special qualifier "E" are reported in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	TP-011-M	TP-011-N	EWM-03B-AM	EWM-03B-AN	EWM-04C-AM	EWM-04C-AN	TP-030-M	TP-030-N
Laboratory Sample No.	D96-14408-3	D96-14408-4	D97-467-2	D97-467-3	D97-619-2	D97-619-3	D97-2306-2	D97-2306-3
Depth (feet)	NA	NA	N/A	N/A	N/A	N/A	N/A	N/A
Type	Soil/Composite	Soil/Composite	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Composite	Soil/Composite
Date Collected	12/13/96	12/13/96	1/13/97	1/13/97	01/15/97	01/15/97	02/25/97	02/25/97
Compound (mg/kg)								
VOLATILES								
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	N/A
Total VOCs	NA	NA	NA	NA	NA	NA	NA	N/A
cPAHs								
Benzo(a)anthracene	3.32	8.54	<1.60	3.11	9.79	1.64	5.17	5.37
Benzo(b)fluoranthene	4.57	13.4	1.90	4.04	9.74	2.26	6.69	6.31
Benzo(k)fluoranthene	2.49	6.51	<1.60	<1.58	4.43	<0.909	4.04	6.15
Benzo(a)pyrene	3.86	10.1	1.32	2.77	6.13	1.65	5.83	6.03
Chrysene	3.24	8.69	<1.60	2.99	9.9	1.82	5.89	5.74
Dibenz(a,h)anthracene	1.38	3.36	<0.400	0.399	1.42	0.35	3.97	4.23
Indeno(1,2,3-cd)pyrene	2.43	6.19	<1.60	<1.58	3.46	1.01	4.82	5.62
Total cPAHs	21.3	56.7	3.22	13.3	44.9	8.73	36.5	39.4
Total PCBs	2.17	2.34	2.08	2.2	<0.130	<0.138	0.414	0.456

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special qualifier "E" are reported in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	TP-030-E	EWE--02C-EE	EWM-02F-AM	EWM-02F-AN	EWM-E	EWM-03F-AM	EWM-03F-AN	FIELD BLANK
Laboratory Sample No.	D97-2306-5	D96-14243-4	D97-6622-12	D97-6622-13	D97-6622-14	D97-4518-4	D97-4518-5	D97-8158-1
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Type	Soil/Composite	Aqueous	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Soil/Grab	Aqueous
Date Collected	02/25/97	12/11/96	5/29/97	5/29/97	5/29/97	04/14/97	04/14/97	7/7/97
Compound (mg/kg)								
VOLATILES								
1,1,2,2-Tetrachloroethane	N/A	<5.00	NA	NA	NA	N/A	N/A	N/A
Total VOCs	N/A	<100	NA	NA	NA	N/A	N/A	N/A
cPAHs								
Benzo(a)anthracene	<10.0	NA	7.88	8.48	<11	4.22	3.83	<10
Benzo(b)fluoranthene	<10.0	NA	7.73	8.99	<11	4.61	4.5	<10
Benzo(k)fluoranthene	<10.0	NA	5.76	6.28	<11	3.63	3.94	<10
Benzo(a)pyrene	<10.0	NA	6.67	7.39	<11	3.69	3.46	<10
Chrysene	<10.0	NA	7.6	8.27	<11	3.96	3.56	<10
Dibenz(a,h)anthracene	<10.0	NA	5.44	5.6	<11	3.13	3.02	<10
Indeno(1,2,3-cd)pyrene	<10.0	NA	5.95	6.74	<11	3.07	2.71	<10
Total cPAHs	<10.0	NA	47	51.8	<11	26.3	25.1	<10
Total PCBs	<0.50	NA	5.12	3.76	<0.55	11.5	9.84	<0.50

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special qualifier "E" are reported in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-10 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (SOIL)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	FIELD BLANK	FIELD BLANK	FIELD BLANK	EWM-01-AX3CM	EWM-01-AX3CN	FIELD BLANK	EWH-01-AX3CM	EWH-01-AX3CN
Laboratory Sample No.	D97-8813-1	D97-8961-4	D97-9336-1	D97-8961-2	D97-8961-3	D97-9336-1	D97-8961-2	D97-8961-3
Depth (feet)	N/A	N/A	N/A	2-2.5	2-2.5	N/A	2-2.5	2-2.5
Type	Aqueous	Aqueous	Aqueous	Matrix Spike	Matrix Spike Duplicate	Aqueous	Matrix Spike	Matrix Spike Duplicate
Date Collected	7/15/97	7/21/97	7/29/97	7/21/97	7/21/97	7/29/97	7/21/97	7/21/97
Compound (ug/L)								
VOLATILES								
1,1,2,2-Tetrachloroethane	<5.0	NA	NA	NA	NA	NA	NA	NA
Total VOCs	<50.0	NA	NA	NA	NA	NA	NA	NA
cPAHs								
Benzo(a)anthracene	NA	<11	<10	6.32	7.81	<10	6.32	7.81
Benzo(b)fluoranthene	NA	<11	<10	7.73	9.32	<10	7.73	9.32
Benzo(k)fluoranthene	NA	<11	<10	4.31	5.70	<10	4.31	5.70
Benzo(a)pyrene	NA	<11	<10	6.28	7.57	<10	6.28	7.57
Chrysene	NA	<11	<10	6.06	7.24	<10	6.06	7.24
Dibenz(a,h)anthracene	NA	<11	<10	5.15	7.13	<10	5.15	7.13
Indeno(1,2,3-cd)pyrene	NA	<11	<10	6.36	8.54	<10	6.36	8.54
Total cPAHs	NA	<11	<10	42.2	53.3	<10	42.21	53.31
Total PCBs	NA	<0.50	<0.56	3.15	2.43	<0.560	3.38	2.43
Total Lead	NA	<2.0	<2.0	NA	NA	<2.0	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

Samples with the special qualifier "E" are reported in ug/L.

EPA Method 8240 - VOA, EPA Method 8270B - cPAH, EPA Method 8080 - PCB, EPA Method 6010 - Pb

Special Identifiers: M = Matrix Spike , N = Matrix Spike Duplicate, E = Equipment Rinse Blank

TABLE A-11

QUALITY ASSURANCE/QUALITY CONTROL RESULTS (AQUEOUS)

TABLE A-11

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	PEN-06-M	PEN-06-N	PEN-06-E	PEN-06-T
Lab Sample No.	D96-13281-3	D96-13181-4	D96-13821-5	D96-13821-6
Depth (feet)	N/A	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous	Aqueous
Date Collected	11/20/96	11/20/96	11/20/96	11/20/96
Compound (ppb)				
VOLATILES				
Acetone	74.8	114	437	<0.50
Acrolein	41.6	34.6(J)	<50.0	<50.0
Acrylonitrile	37.4(J)	41.4(J)	<50.0	<50.0
Benzene	49.2	52.5	<4.40	<4.40
Bromoform	57.4	60.0	<4.70	<4.70
Carbon Tetrachloride	37.1	40.8	<2.80	<2.80
Chlorobenzene	53.0	52.7	<5.00	<5.00
Chlorodibromomethane	47.4	54.1	<2.20	<2.20
Chloroethane	36.8	39.7	<2.60	<2.60
Chloroform	54.9	60.7	<1.60	<1.60
cis-1,2-Dichloroethene	58.8	66.3	<0.50	<0.50
Dichlorobromomethane	36.2	39.7	<2.20	<2.20
1,1 - Dichloroethane	46.0	47.5	<4.70	<4.70
1,2 - Dichloroethane	54.4	61.6	<2.80	<2.80
1,1 - Dichloroethylene	22.5	29.2	<2.80	<2.80
1,2 - Dichloropropane	44.6	49.7	<5.00	<5.00
1,3 - Dichloropropylene	NA	NA	NA	NA
Ethylbenzene	23.2	23.5	<7.20	<7.20
Methyl Bromide (Bromomethane)	38.0	46.0	<2.00	<2.00
Methyl Chloride	29.3	37.7	<3.00	<3.00
1,1,2,2 - Tetrachloroethane	60.4	60.1	<6.90	<6.90
Tetrachloroethylene	53.3	45.9	<4.10	<4.10
Toluene	54.8	48.1	<6.00	<6.00
trans-1,2-Dichloroethylene	31.5	29.0	<1.60	<1.60
1,1,1 - Trichloroethane	47.0	45.3	<3.80	<3.80
Trichloroethylene	45.3	50.4	<1.90	<1.90
Vinyl Chloride	32.6	42.5	<3.40	<3.40
Total Non-Targeted Volatiles	0.0	0.0	0.0	0.0
METALS				
Lead	<1.49	<1.49	6.77	N/A
Arsenic	<0.9	<0.9	<0.9	N/A

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

NA - Not Analyzed

N/A - Not Applicable

EPA Method 624 - VOCs

EPA Method 206.2 - Arsenic

EPA Method 239.2 - Lead

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

E = Equipment Rinse Blank

T = Trip Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	PEN-06-M	PEN-06-N	PEN-06-E
Lab Sample No.	D96-13281-3	D96-13281-4	D96-13281-5
Depth (feet)	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous
Date Collected	11/20/96	11/20/96	11/20/96
Compound (ppb)			
BASE NEUTRALS			
Acenaphthylene	<3.5	<3.5	<3.5
Anthracene	<1.9	<1.9	<1.9
Benzidine	<5.7	<5.7	<5.7
Benzo(a)Anthracene	<7.8	<7.8	<7.8
Benzo(a)Pyrene	<2.5	<2.5	<2.5
Benzo(b)fluoranthene	<4.8	<4.8	<4.8
Benzo(ghi)Perylene	<4.1	<4.1	<4.1
Benzo(k)Fluoranthene	<2.5	<2.5	<2.5
Bis(2-Chloroethyl)Ether	<5.7	<5.7	<5.7
Bis(2-Chloroisopropyl)Ether	<5.7	<5.7	<5.7
Bis(2-Ethylhexyl)Phthalate	<2.5	<2.5	<2.5
Butyl Benzyl Phthalate	<2.5	<2.5	<2.5
Chrysene	<2.5	<2.5	<2.5
Dibenzo(a,h)Anthracene	<2.5	<2.5	<2.5
1,2-Dichlorobenzene	<1.9	<1.9	<1.9
1,3-Dichlorobenzene	<1.9	<1.9	<1.9
1,4-Dichlorobenzene	<4.4	<4.4	<4.4
3,3'-Dichlorobenzidine	<16.5	<16.5	<16.5
Diethyl Phthalate	<1.9	<1.9	<1.9
Dimethyl Phthalate	<1.8	<1.8	<1.8
Di-N-Butyl Phthalate	<2.5	<2.5	<2.5
2,4-Dinitrotoluene	<5.7	<5.7	<5.7
2,6-Dinitrotoluene	<1.9	<1.9	<1.9
Fluoranthene	<2.2	<2.2	<2.2
Fluorene	<1.9	<1.9	<1.9
Hexachlorobenzene	<1.9	<1.9	<1.9
Hexachlorobutadiene	<0.9	<0.9	<0.9
Hexachlorocyclopentadiene	<5.0	<5.0	<5.0

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 625 - BNAs

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

E = Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	PEN-06-M	PEN-06-N	PEN-06-E
Lab Sample No.	D96-13281-3	D96-13281-4	D96-13281-5
Depth (feet)	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous
Date Collected	11/20/96	11/20/96	11/20/96
Compound (ppb)			
BASE NEUTRALS			
Hexachloroethane	<1.6	<1.6	<1.6
Indeno(1,2,3-cd)Pyrene	<3.7	<3.7	<3.7
Isophorone	<2.2	<2.2	<2.2
Naphthalene	<1.8	<1.8	<1.8
Nitrobenzene	<1.9	<1.9	<1.9
N-Nitrosodimethylamine	<5.0	<5.0	<5.0
N-Nitrosodiphenylamine	<1.9	<1.9	<1.9
Pentachlorobenzene	<10.0	<10.0	<10.0
Phenanthrene	<5.4	<5.4	<5.4
Pyrene	<.9	<1.9	<1.9
1,2,4,5-Tetrachlorobenzene	<10.0	<10.0	<10.0
1,2,4-Trichlorobenzene	<1.9	<1.9	<1.9
ACID COMPOUNDS			
2-Chlorophenol	<3.3	<3.3	<3.3
2,4-Dichlorophenol	<2.7	<2.7	<2.7
2,4-Dimethyphenol	<2.7	<2.7	<2.7
4,6-Dinitro-O-Cresol	<24.0	<24.0	<24.0
2,4-Dinitrophenol	<42.0	<42.0	<42.0
2-Nitrophenol	<3.8	<3.8	<3.8
4-Nitrophenol	<3.8	<3.8	<3.8
Pentachlorophenol	<3.5	<3.5	<3.5
Phenol	<1.5	<1.5	<1.5
Total non-targeted B/N's	NA	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

NA - Not Analyzed

N/A - Not Applicable

EPA Method 625 - BNAs

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

E = Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	PEN-06-M	PEN-06-N
Lab Sample No.	D96-13281-3	D96-13281-4
Depth (feet)	N/A	N/A
Type	Aqueous	Aqueous
Date Collected	11/20/96	11/20/96
Compound (ppb)		
PCBs		
Aroclor 1016	2.18	2.15
Aroclor 1221	<1.00	<1.00
Aroclor 1232	<1.00	<1.00
Aroclor 1242	<1.00	<1.00
Aroclor 1248	<1.00	<1.00
Aroclor 1254	<1.00	<1.00
Aroclor 1260	1.92	2.05

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

NA - Not Analyzed

N/A - Not Applicable

EPA Method 608 - PCBs

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	PEN-01-M	PEN-01-N	PEN-01-T
Lab Sample No.	5842-3	5842-4	5842-5
Depth (feet)	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous
Date Collected	5/30/96	5/30/96	5/30/96
Compound (ppb)			
VOLATILES			
Acetone	NA	NA	NA
Acrolein	NA	NA	NA
Acrylonitrile	NA	NA	NA
Benzene	59.4	60.3	<4.40
Bromoform	49.2	49.1	<4.70
Carbon Tetrachloride	57.7	58.2	<2.80
Chlorobenzene	55.0	54.7	<6.00
Chlorodibromomethane	58.8	61.0	<2.20
Chloroethane	85.9	63.1	<2.60
Chloroform	66.6	65.3	<1.60
cis-1,2-Dichloroethene	NA	NA	NA
Dichlorobromomethane	60.8	61.0	<2.20
1,1 - Dichloroethane	75.3	74.3	<4.70
1,2 - Dichloroethane	74.0	74.8	<2.80
1,1 - Dichloroethylene	63.6	64.7	<2.80
1,2 - Dichloropropane	62.3	61.5	<6.00
1,3 - Dichloropropylene	NA	NA	NA
Ethylbenzene	53.5	50.4	<7.20
Methyl Bromide (Bromomethane)	62.9	63.7	<2.00
Methyl Chloride (Chloromethane)	55.0	50.6	<3.00
1,1,2,2 - Tetrachloroethane	67.3	67.8	<6.90
Tetrachloroethylene	48.9	49.7	<4.10
Toluene	51.8	52.3	<6.00
trans-1,2-Dichloroethylene	61.8	62.5	<1.60
1,1,1 - Trichloroethane	61.7	62.3	<3.80
Trichloroethylene	54.1	53.0	<1.90
Vinyl Chloride	43.7	43.5	<3.40
Total Non-Targeted Volatiles	NA	NA	NA
METALS			
Lead	28.8	27.8	N/A
Arsenic	46.3	44.8	N/A

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

NA - Not Analyzed

N/A - Not Applicable

EPA Method 624 - VOCs

EPA Method 6010 - Arsenic

EPA Method 7421 - Lead

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

T = Trip Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	PEN-01-M	PEN-01-N
Lab Sample No.	5842-3	5842-4
Depth (feet)	N/A	N/A
Type	Aqueous	Aqueous
Date Collected	5/30/96	5/30/96
Compound (ppb)		
BASE NEUTRALS		
Acenaphthylene	57.2	56.7
Anthracene	NA	NA
Benzidine	NA	NA
Benzo(a)Anthracene	71.2	51.6
Benzo(a)Pyrene	68.5	51.8
Benzo(b)fluoranthene	69.7	49.2
Benzo(ghi)Perylene	66.1	38.7
Benzo(k)Fluoranthene	73.6	60.2
Bis(2-Chloroethyl)Ether	70.6	55.7
Bis(2-Chloroisopropyl)Ether	74.8	56.4
Bis(2-Ethylhexyl)Phthalate	68.4	55.3
Butyl Benzyl Phthalate	68.0	50.5
Chrysene	65.0	55.4
Dibenzo(a,h)Anthracene	65.7	38.2
1,2-Dichlorobenzene	60.5	63.3
1,3-Dichlorobenzene	54.0	56.8
1,4-Dichlorobenzene	55.1	58.5
3,3'-Dichlorobenzidine	<16.5	26.8
Diethyl Phthalate	67.2	55.3
Dimethyl Phthalate	69.5	53.0
Di-N-Butyl Phthalate	45.4	46.7
2,4-Dinitrotoluene	72.8	55.1
2,6-Dinitrotoluene	69.3	56.8
Fluoranthene	58.0	44.9
Fluorene	66.4	58.7
Hexachlorobenzene	62.7	51.5
Hexachlorobutadiene	52.0	58.4
Hexachlorocyclopentadiene	43.1	41.8

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8270 - BNAs

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	PEN-01-M	PEN-01-N
Lab Sample No.	5842-3	5842-4
Depth (feet)	N/A	N/A
Type	Aqueous	Aqueous
Date Collected	5/30/96	5/30/96
Compound (ppb)		
BASE NEUTRALS		
Hexachloroethane	49.1	58.3
Indeno(1,2,3-cd)Pyrene	66.2	41.1
Isophorone	72.7	54.4
Naphthalene	49.8	55.5
Nitrobenzene	69.8	53.0
N-Nitrosodimethylamine	40.1	29.7
N-Nitrosodiphenylamine	62.8	46.9
Pentachlorobenzene	NA	NA
Phenanthrene	58.1	46.0
Pyrene	63.0	52.4
1,2,4,5-Tetrachlorobenzene	NA	NA
1,2,4-Trichlorobenzene	60.9	58.2
ACID COMPOUNDS		
2-Chlorophenol	67.8	59.7
2,4-Dichlorophenol	68.3	60.0
2,4-Dimethyphenol	60.6	56.6
4,6-Dinitro-O-Cresol	68.5	44.6(J)
2,4-Dinitrophenol	80.3	50.2
2-Nitrophenol	70.0	53.4
4-Nitrophenol	34.3	28.8(J)
Pentachlorophenol	72.2	42.7(J)
Phenol	34.1	27.3
Total non-targeted B/N's	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

NA - Not Analyzed

N/A - Not Applicable

EPA Method 625 - BNAs

(J)-Estimated Concentration

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	PEN-03-T	PEN-02-T
Lab Sample No.	D96-9025-3	7621-2
Depth (feet)	N/A	N/A
Type	Aqueous	Aqueous
Date Collected	8/14/96	7/12/96
Compound (ppb)		
VOLATILES		
Acetone	<50.0	NA
Acrolein	<50.0	<0.500
Acrylonitrile	<50.0	<0.500
Benzene	<4.40	<0.500
Bromoform	<4.70	<0.500
Carbon Tetrachloride	<2.80	<0.500
Chlorobenzene	<5.00	<0.500
Chlorodibromomethane	<2.20	<0.500
Chloroethane	<2.60	<0.500
Chloroform	<1.60	<0.500
cis-1,2-Dichloroethene	<1.60	NA
Dichlorobromomethane	<2.20	<0.500
1,1 - Dichloroethane	<4.70	<0.500
1,2 - Dichloroethane	<2.80	<0.500
1,1 - Dichloroethylene	<2.80	<0.500
1,2 - Dichloropropane	<5.00	<0.500
1,3 - Dichloropropylene	<5.00	NA
Ethylbenzene	<7.20	<0.500
Methyl Bromide (Bromomethane)	<2.00	<0.500
Methyl Chloride (Chloromethane)	<3.00	<0.500
1,1,2,2 - Tetrachloroethane	<6.90	<0.500
Tetrachloroethylene	<4.10	<0.500
Toluene	<6.00	<0.500
trans-1,2-Dichloroethylene	<1.60	<0.500
1,1,1 - Trichloroethane	<3.80	<0.500
Trichloroethylene	<1.90	<0.500
Vinyl Chloride	<3.4	<0.500
Total Non-Targeted Volatiles	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

NA - Not Analyzed

N/A - Not Applicable

EPA Method 624 - VOCs

Special Identifiers:

T = Trip Blank

PEN-02-T reported as PEN-01-T

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	LS--3-01-M	LS-3-01-N	LS-3-01-E
Lab Sample No.	5796-3	5796-4	5796-5
Depth (feet)	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous
Date Collected	5/29/96	5/29/96	5/29/96
Compound (ppb)			
VOLATILES			
Chloromethane	882	856	<10.0
Bromomethane	476	462	<10.0
Vinyl chloride	597	598	<10.0
Chloroethane	426	371	<10.0
Methylene chloride	776	748	<5.0
Acetone	892(J)	1190	10300
Carbon disulfide	580	535	<5.0
1,1 - Dichloroethene	575	533	<5.0
1,1 - Dichloroethane	598	608	<5.0
cis - 1,2-Dichloroethene	181	179	<5.0
trans-1,2-Dichloroethene	598	541	<5.0
Chloroform	623	586	<5.0
1,2-Dichloroethane	655	617	<5.0
2-Butanone	499(J)	446(J)	<100.0
1,1,1-Trichloroethane	527	510	<5.0
Carbon tetrachloride	555	528	<5.0
Bromodichloromethane	565	540	<5.0
1,2-Dichloropropane	610	587	<5.0
cis-1,3-Dichloropropene	541	517	<5.0
Trichloroethene	705	726	<5.0
Chlorodibromomethane	535	505	<5.0
1,1,2-Trichloroethane	514	481	<5.0
Benzene	1160	1170	<5.0
trans-1,3-Dichloropropene	542	509	<5.0
Bromoform	452	432	<5.0
4-Methyl-2-pentanone	475(J)	453(J)	<50.0
2-Hexanone	459(J)	426(J)	<50.0
Tetrachloroethene	525	484	<5.0
Toluene	4000	4030	<5.0
1,1,2,2-Tetrachloroethane	547	468	<5.0
Chlorobenzene	597	572	<5.0
Ethylbenzene	560	536	<5.0
Styrene	559	526	<5.0
o-Xylene	556	539	<5.0
m,p-Xylene	1160	1100	<5.0
Total VOCs	24600	23900	10300

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8240 - Volatile Organic Analysis

Special Identifiers:

M - Matrix Spike

N - Matrix Spike Duplicate

E - Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	MW-36-M	MW-36-N	MW-36-E	MW-36-T	MW-100-01T
Lab Sample No.	D96-5416-4	D96-5416-5	D96-5416-6	D96-5416-8	D97-2373-2
Depth (feet)	NA	NA	NA	NA	N/A
Type	Aqueous/Grab	Aqueous/Grab	Aqueous/Grab	Aqueous/Grab	Aqueous
Date Collected	05/17/96	05/17/96	05/17/96	05/17/96	02/24/97
Compound (ppb)					
VOLATILES					
Chloromethane	51.2	50.8	<3.00	<3.00	<3.00
Bromomethane	54.3	49.7	<2.00	<2.00	<2.00
Vinyl chloride	51.4	47.9	<3.40	<3.40	<3.40
Chloroethane	30	27.4	<2.60	<2.60	<2.60
Methylene chloride	49.4	46.6	<2.80	<2.80	7.82
1,1 - Dichloroethene	49.1	48	<2.80	<2.80	<2.80
trans-1,2-Dichloroethene	49.2	47.2	<1.60	<1.60	<1.60
1,1 - Dichloroethane	53.4	51.5	<4.70	<4.70	<4.70
1,2 - Dichloroethane	53.1	52.4	<2.80	<2.80	<2.80
Chloroform	51.7	49.3	<1.60	<1.60	<1.60
1,1,1-Trichloroethane	49.7	44.2	<3.80	<3.80	<3.80
Carbon tetrachloride	47.9	43	<2.80	<2.80	<2.80
Bromodichloromethane	50.3	46.5	<2.20	<2.20	<2.20
1,2-Dichloropropane	53.4	49.8	<5.00	<5.00	<5.00
Trichloroethene	48.3	46	<1.90	<1.90	<1.90
Benzene	53.3	50.9	<4.40	<4.40	<4.40
trans-1,3-Dichloropropene	49.3	45.9	<5.00	<5.00	<5.00
1,1,2-Trichloroethane	46.6	43.2	<5.00	<5.00	<5.00
Chlorodibromomethane	46.5	44.7	<2.20	<2.20	<2.20
Bromoform	40.4	38.7	<4.70	<4.70	<4.70
1,1,2,2-Tetrachloroethane	45.4	39.6	<6.90	<6.90	<6.90
Tetracholoroethene	44	40.1	<4.10	<4.10	<4.10
2-Hexanone	NA	NA	<50.0	NA	NA
Toluene	114	119	107	<6.00	<6.00
Chlorobenzene	52.6	46.1	<5.00	<5.00	<5.00
Ethylbenzene	46.6	42.5	<7.20	<7.20	<7.20
PCBs					
Aroclor 1016	<0.500	<0.500	<0.500	NA	NA
Aroclor 1221	<0.500	<0.500	<0.500	NA	NA
Aroclor 1232	<0.500	<0.500	<0.500	NA	NA
Aroclor 1242	<0.500	<0.500	<0.500	NA	NA
Aroclor 1248	<0.500	<0.500	<0.500	NA	NA
Aroclor 1254	<0.500	<0.500	<0.500	NA	NA
Aroclor 1260	7.1	7.74	<0.500	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8240 - Volatile Organic Analysis, EPA Method 8080 - PCBs

Special Identifiers:

M - Matrix Spike

N - Matrix Spike Duplicate

E - Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	MW-36-M	MW-36-N	MW-36-E
Lab Sample No.	D96-5416-4 (5416-2 MS)	96-5416-5 (5416-2 MSD	D96-5416-6
Depth (feet)	NA	NA	NA
Type	Aqueous	Aqueous	Aqueous
Date Collected	05/17/96	05/17/96	05/17/96
Compound (ppb)			
BASE NEUTRALS			
Acenaphthylene	40.6	43.4	<3.5
Anthracene	74.2	75.1	<1.9
Benzidine	<5.7	<5.70	<5.7
Benzo(a)Anthracene	70.1	65.5	<7.8
Benzo(a)Pyrene	66.4	65.6	<2.5
Benzo(b)fluoranthene	65.3	63.9	<4.8
Benzo(ghi)Perylene	69.9	66.8	<4.1
Benzo(k)Fluoranthene	67.9	67.4	<2.5
Bis(2-Chloroethyl)Ether	77	82.1	<5.7
Bis(2-Chloroisopropyl)Ether	68.2	68.8	<5.7
Bis(2-Ethylhexyl)Phthalate	62.8	56.6	<2.5
Butyl Benzyl Phthalate	58.4	55	<2.5
Chrysene	69.9	66.8	<2.5
Dibenzo(a,h)Anthracene	76	73.4	<2.5
1,2-Dichlorobenzene	70.8	87	<1.9
1,3-Dichlorobenzene	69.4	73.5	<1.9
1,4-Dichlorobenzene	70.1	75.6	<4.4
3,3'-Dichlorobenzidine	<16.5	<16.5	<16.5
Diethyl Phthalate	66.6	59.9	<1.9
Dimethyl Phthalate	31.7	42.9	<1.8
Di-N-Butyl Phthalate	69.9	65.2	<2.5
2,4-Dinitrotoluene	64.4	63.1	<5.7
2,6-Dinitrotoluene	47.8	52.6	<1.9
Fluoranthene	70	70.2	<2.2
Fluorene	74.3	71.6	<1.9
Hexachlorobenzene	65	61	<1.9
Hexachlorobutadiene	68.5	70.1	<0.90
Hexachlorocyclopentadiene	31.6	28.4	<5.0

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 625 - BNAs

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

E = Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	MW-36-M	MW-36-N	MW-36-E
Lab Sample No.	D96-5416-4 (5416-2 MS)	D96-5416-5 (5416-2 MSD)	D96-5416-6
Depth (feet)	NA	NA	NA
Type	Aqueous	Aqueous	Aqueous
Date Collected	05/17/96	05/17/96	05/17/96
Compound (ppb)			
BASE NEUTRALS (cont.)			
Hexachloroethane	71.6	73.2	<1.6
Indeno(1,2,3-cd)Pyrene	72	69.3	<3.7
Isophorone	70.6	70.5	<2.2
Naphthalene	79.1	82.5	<1.8
Nitrobenzene	80.2	83.2	<1.9
N-Nitrosodimethylamine	66	68.6	<5.0
N-Nitrosodiphenylamine	82.4	78.5	<1.9
Pentachlorophenol	65.7	70.4	<50.0
Phenanthrene	76.6	78.4	<5.4
Pyrene	68.9	66.8	<1.9
1,2,4-Trichlorobenzene	73	76.8	<1.9
ACID COMPOUNDS			
2-Chlorophenol	58.6	65.5	<3.3
2,4-Dimethylphenol	78.3	82.5	<2.7
4,6-Dinitro-2-methylphenol	70.8	74.2	<24.0
2,4-Dinitrophenol	71.5	69	<42.0
2-Nitrophenol	67.7	74.3	<3.8
4-Nitrophenol	66	67.7	<3.8
Phenol	58.6	62.7	<1.5
2,4,6-Trichlorophenol	77.2	79	<2.7
METALS			
Arsenic	NA	NA	<2.2
Lead	NA	NA	<1.1

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

NA - Not Analyzed

N/A - Not Applicable

EPA Method 625 - BNAs, EPA Methods 7060 - Arsenic and 7421 - Lead

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

E = Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Trip Blank
Lab Sample No.	D96-7495-2
Depth (feet)	NA
Type	Aqueous
Date Collected	07/10/96
Compound (ppb)	
VOLATILES	
Chloromethane	<10.0
Bromomethane	<10.0
Vinyl chloride	<10.0
Chloroethane	<10.0
Methylene chloride	<5.00
Acetone	<100
Acrylonitrile	<5.00
Carbon disulfide	<5.00
Trichlorofluoromethane	<5.00
1,1 - Dichloroethene	<5.00
1,1 - Dichloroethane	<5.00
1,2 - Dichloroethane	<5.00
Chloroform	<5.00
2-Butanone	<50.0
1,1,1-Trichloroethane	<5.00
Carbon tetrachloride	<5.00
Vinyl acetate	<50.0
Bromodichloromethane	<5.00
1,2-Dichloropropane	<5.00
cis-1,3-Dichloropropene	<5.00
Trichloroethene	<5.00
Benzene	<5.00
trans-1,3-Dichloropropene	<5.00
1,1,2-Trichloroethane	<5.00
2-Chlorethylvinyl ether	<50.0
Chlorodibromomethane	<5.00
Bromoform	<5.00
4-Methyl-2-pentanone	<50.0
1,1,2,2 - Tetrachloroethane	<5.00
Tetrachloroethene	<5.00
2 - Hexanone	<50.0
Toluene	<5.00
Chlorobenzene	<5.00
Ethylbenzene	<5.00
Styrene	<5.00
m,p-Xylene	<5.00
trans-1,2-Dichloroethene	<5.00
o-Xylene	<5.00
cis-1,2-Dichloroethene	<5.00

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8240 - Volatile Organic Analysis

Special Identifiers:

M - Matrix Spike

N - Matrix Spike Duplicate

E - Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Trip Blank
Lab Sample No.	D96-9023-3
Depth (feet)	NA
Type	Aqueous
Date Collected	08/14/96
Compound (ppb)	
VOLATILES	
Chloromethane	<10.0
Bromomethane	<10.0
Vinyl chloride	<10.0
Chloroethane	<10.0
Methylene chloride	<5.0
Acetone	<100
Carbon disulfide	<5.0
1,1 - Dichloroethene	<5.0
1,1 - Dichloroethane	<5.0
cis - 1,2-Dichloroethene	<5.0
trans-1,2-Dichloroethene	<5.0
Chloroform	<5.0
1,2-Dichloroethane	<5.0
2-Butanone	<50.0
1,1,1-Trichloroethane	<5.0
Carbon tetrachloride	<5.0
Bromodichloromethane	<5.0
1,2-Dichloropropane	<5.0
cis-1,3-Dichloropropene	<5.0
Trichloroethene	<5.0
Chlorodibromomethane	<5.0
1,1,2-Trichloroethane	<5.0
Benzene	<5.0
trans-1,3-Dichloropropene	<5.0
Bromoform	<5.0
4-Methyl-2-pentanone	<50.0
2-Hexanone	<50.0
Tetrachloroethene	<5.0
Toluene	<5.0
1,1,2,2-Tetrachloroethane	<5.0
Chlorobenzene	<5.0
Ethylbenzene	<5.0
Styrene	<5.0
o-Xylene	<5.0
m,p-Xylene	<5.0
Total VOCs	<100

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8240 - Volatile Organic Analysis

Special Identifiers:

M - Matrix Spike

N - Matrix Spike Duplicate

E - Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	PEN-07-D	PEN-07-T	MW-100-01T	Field Blank	Trip Blank
Lab Sample No.	D96-13953-3	D96-13953-4	D97-2373-2	D97-12924	D97-12698-4
Depth (feet)	N/A	N/A	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Date Collected	12/05/96	12/05/96	02/24/97	10/24/97	10/17/97
Compound (ppb)					
VOLATILES					
Chloromethane	NA	<10.0	<10.0	<10.0	<3.00
Bromomethane	NA	<10.0	<10.0	<10.0	<2.00
Vinyl chloride	NA	<10.0	<10.0	<10.0	<3.4
Chloroethane	NA	<10.0	<10.0	<10.0	<2.2
Methylene chloride	NA	9.5	<5.0	<5.0	<2.8
Acetone	NA	<100	<100	<100	<50.0
Carbon disulfide	NA	<5.0	<5.0	<5.0	NA
1,1 - Dichloroethene	NA	<5.0	<5.0	<5.0	<2.80
1,1 - Dichloroethane	NA	<5.0	<5.0	<5.0	<4.70
cis - 1,2-Dichloroethene	NA	<5.0	<5.0	<5.0	<1.60
trans-1,2-Dichloroethene	NA	<5.0	<5.0	<5.0	<1.60
Chloroform	NA	<5.0	<5.0	<5.0	<1.60
1,2-Dichloroethane	NA	<5.0	<5.0	<5.0	<2.80
2-Butanone	NA	<50.0	<50.0	<50.0	NA
1,1,1-Trichloroethane	NA	<5.0	<5.0	<5.0	<3.80
Carbon tetrachloride	NA	<5.0	<5.0	<5.0	<2.80
Bromodichloromethane	NA	<5.0	<5.0	<5.0	<2.20
1,2-Dichloropropane	NA	<5.0	<5.0	<5.0	<5.00
cis-1,3-Dichloropropene	NA	<5.0	<5.0	<5.0	NA
Trichloroethene	NA	<5.0	<5.0	<5.0	<1.90
Chlorodibromomethane	NA	<5.0	<5.0	<5.0	<2.20
1,1,2-Trichloroethane	NA	<5.0	<5.0	<5.0	<5.00
Benzene	NA	<5.0	<5.0	<5.0	<4.40
trans-1,3-Dichloropropene	NA	<5.0	<5.0	<5.0	NA
Bromoform	NA	<5.0	<5.0	<5.0	<4.70
4-Methyl-2-pentanone	NA	<50.0	<50.0	<50.0	<10.0
2-Hexanone	NA	<50.0	<50.0	<50.0	NA
Tetrachloroethene	NA	<5.0	<5.0	<5.0	<4.10
Toluene	NA	<5.0	<5.0	<5.0	<6.00
1,1,2,2-Tetrachloroethane	NA	<5.0	<5.0	<5.0	<6.90
Chlorobenzene	NA	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	NA	<5.0	<5.0	<5.0	<7.20
Styrene	NA	<5.0	<5.0	<5.0	NA
o-Xylene	NA	<5.0	<5.0	<5.0	NA
m,p-Xylene	NA	<5.0	<5.0	<5.0	NA
METALS					
Lead	75.6	NA	NA	NA	NA
Mercury	3.11	NA	NA	NA	NA

N/A - Not Applicable

EPA Method 624 - VOCs

EPA Method 206.2 - Arsenic

EPA Method 239.2 - Lead

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

E = Equipment Rinse Blank

T = Trip Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Trip Blank
Lab Sample No.	D97-13645
Depth (feet)	NA
Type	Aqueous
Date Collected	11/11/97
Compound (ppb)	
VOLATILES	
Chloromethane	<3.00
Bromomethane	<2.00
Vinyl chloride	<3.4
Chloroethane	<2.60
Methylene chloride	8.49
Acetone	<50.0
Acrolein	<50.0
Acrylonitrile	<50.0
Carbon disulfide	NA
1,1 - Dichloroethene	<2.80
1,1 - Dichloroethane	<4.70
cis - 1,2-Dichloroethene	<1.60
trans-1,2-Dichloroethene	<1.60
1,3-Dichloropropene	<5.00
Chloroform	<1.60
1,2-Dichloroethane	<2.80
2-Butanone	NA
1,1,1-Trichloroethane	<3.80
Carbon tetrachloride	<2.80
Bromodichloromethane	<2.2
1,2-Dichloropropane	<5.00
cis-1,3-Dichloropropene	NA
Trichloroethene	<1.90
Chlorodibromomethane	<2.20
1,1,2-Trichloroethane	<5.00
Benzene	<4.40
trans-1,3-Dichloropropene	NA
Bromoform	<4.70
4-Methyl-2-pentanone	NA
2-Hexanone	NA
Tetrachloroethene	<4.10
Toluene	<6.00
1,1,2,2-Tetrachloroethane	<6.90
Chlorobenzene	<5.00
Ethylbenzene	<7.20
Styrene	NA
o-Xylene	NA
m,p-Xylene	NA
Total VOCs	

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8240 - Volatile Organic Analysis

Special Identifiers:

M - Matrix Spike

N - Matrix Spike Duplicate

E - Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Trip Blank	Trip Blank	Trip Blank	LS-3(3)-01M	LS-3(3)-01N
Lab Sample No.	D97-12636-3	D97-12611-3	D97-12698-4	D97-14402-8	D97-14402-9
Depth (feet)	NA	NA	NA	NA	NA
Type	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Date Collected	10/14/97	10/15/97	10/14/97	12/15/97	12/15/97
Compound (ppb)					
VOLATILES					
Chloromethane	<3.00	<3.00	<3.00	45.4	40.1
Bromomethane	2.0J	2.0J	2.0	43.1	39.4
Vinyl chloride	<3.4	<3.4	<3.4	82.7	76.2
Chloroethane	<2.60	<2.60	<2.60	52.8	45.8
Methylene chloride	2.80J	2.80J	2.80	52.5	47
Acetone	<50.0	<50.0	<50.0	81J	71J
Acrolein	<50.0	<50.0	<50.0	NA	NA
Acrylonitrile	<50.0	<50.0	<50.0	NA	NA
Carbon disulfide	NA	NA	NA	45.2	40.6
1,1 - Dichloroethene	<2.80	<2.80	<2.80	49.2	44.1
1,1 - Dichloroethane	<4.70	<4.70	<4.70	53.1	48
cis - 1,2-Dichloroethene	1.60J	1.60J	1.60	133	121
trans-1,2-Dichloroethene	<1.60	<1.60	<1.60	54.3	49.4
1,3-Dichloropropene	<5.00	<5.00	<5.00	NA	NA
Chloroform	1.60J	1.60J	1.60	54.4	49.7
1,2-Dichloroethane	2.80J	2.80J	2.80	59.8	54.6
2-Butanone	NA	NA	NA	51.3	48.5J
1,1,1-Trichloroethane	3.80J	3.80J	3.80	52	46.9
Carbon tetrachloride	<2.80	<2.80	<2.80	50	45.2
Bromodichloromethane	2.20J	2.20J	2.20	54.2	48.6
1,2-Dichloropropane	<5.00	<5.00	<5.00	57	50.5
cis-1,3-Dichloropropene	NA	NA	NA	52.1	46.5
Trichloroethene	1.90J	1.90J	1.90	54.6	47.6
Chlorodibromomethane	2.20J	2.20J	2.20	50.5	47.5
1,1,2-Trichloroethane	<5.00	<5.00	<5.00	57.5	53.3
Benzene	4.40J	4.40J	4.40	157	142
trans-1,3-Dichloropropene	NA	NA	NA	53	46.3
Bromoform	<4.70	<4.70	<4.70	53.3	49.3
4-Methyl-2-pentanone	<10	<10	<10	62.1	61.1
2-Hexanone	NA	NA	NA	62.6	57.2
Tetrachloroethene	4.10J	4.10J	4.10	49.2	45.2
Toluene	<6.00	<6.00	<6.00	73.9	67
1,1,2,2-Tetrachloroethane	<6.90	<6.90	<6.90	63.9	61.8
Chlorobenzene	<5.00	<5.00	<5.00	134	130
Ethylbenzene	<7.20	<7.20	<7.20	60.6	56.1
Styrene	NA	NA	NA	51.9	35.1
o-Xylene	NA	NA	NA	61.2	57.9
m,p-Xylene	NA	NA	NA	113	104
Total VOCs					
Metals					
Arsenic	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8240 - Volatile Organic Analysis

Special Identifiers:

M - Matrix Spike

N - Matrix Spike Duplicate

E - Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Trip Blank	Field Blank	LS-3(4)-M	LS-3(4)-N	Field Blank	Trip Blank
Lab Sample No.	D97-14402-10	D97-14402-11	D97-15123-8	D97-15123-9	D97-15123-10	D97-15123-12
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Date Collected	11/21/97	11/21/97	12/15/97	12/15/97	12/15/97	12/15/97
Compound (ppb)						
VOLATILES						
Chloromethane	<10.0	<10.0	56.2	52.2	<10.0	<10.0
Bromomethane	<10.0	<10.0	53	50.3	<10.0	<10.0
Vinyl chloride	<10.0	<10.0	55.8	51.1	<10.0	<10.0
Chloroethane	<10.0	<10.0	54.7	49	<10.0	<10.0
Methylene chloride	<5.0	<5.0	53	49.4	<5.0	<5.0
Acetone	18J	<100	41J	41J	<100	<100
Acrolein	NA	NA	NA	NA	NA	NA
Acrylonitrile	NA	NA	NA	NA	NA	NA
Carbon disulfide	<5.0	<5.0	53	48.5	<5	<5
1,1 - Dichloroethene	<5.0	<5.0	52.3	48.2	<5	<5
1,1 - Dichloroethane	<5.0	<5.0	52.5	49.1	<5	<5
cis - 1,2-Dichloroethene	<5.0	<5.0	56.7	53.2	<5	<5
trans-1,2-Dichloroethene	<5.0	<5.0	52.3	50.1	<5	<5
1,3-Dichloropropene	NA	NA	NA	NA	NA	NA
Chloroform	<5.0	<5.0	56.3	53.8	<5	<5
1,2-Dichloroethane	<5.0	<5.0	52.6	49.8	<5	<5
2-Butanone	<50.0	<50.0	40J	39.4J	<50	<50
1,1,1-Trichloroethane	<5.0	<5.0	55.5	53.5	<5	<5
Carbon tetrachloride	<5.0	<5.0	38.9	38.8	<5	<5
Bromodichloromethane	<5.0	<5.0	50.8	51.3	<5	<5
1,2-Dichloropropane	<5.0	<5.0	53	49.6	<5	<5
cis-1,3-Dichloropropene	<5.0	<5.0	48	46.4	<5	<5
Trichloroethene	<5.0	<5.0	53.5	51.3	<5	<5
Chlorodibromomethane	<5.0	<5.0	55.3	50.7	<5	<5
1,1,2-Trichloroethane	<5.0	<5.0	52.7	49.9	<5	<5
Benzene	<5.0	<5.0	55	51.3	<5	<5
trans-1,3-Dichloropropene	<5.0	<5.0	48.5	49.5	<5	<5
Bromoform	<5.0	<5.0	45.7	43.8	<5	<5
4-Methyl-2-pentanone	<50.0	<50.0	38.4J	38J	<50	<50
2-Hexanone	<50.0	<50.0	35.3J	34.4J	<50	<50
Tetrachloroethene	<5.0	<5.0	55.3	53.4	<5	<5
Toluene	<5.0	<5.0	54.2	56.3	<5	<5
1,1,2,2-Tetrachloroethane	<5.0	<5.0	42.8	41.1	<5	<5
Chlorobenzene	<5.0	<5.0	54.3	53.6	18.7	18.7
Ethylbenzene	<5.0	<5.0	55.4	54.2	<5	<5
Styrene	<5.0	<5.0	50.8	49.7	<5	<5
o-Xylene	<5.0	<5.0	52.8	51	<5	<5
m,p-Xylene	<5.0	<5.0	104	103	<5	<5
Total VOCs						
Metals						
Arsenic	NA	<0.001	0.035	0.034	<0.001	
Lead	NA	<0.0015	0.0171	0.0196	<0.0015	

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8240 - Volatile Organic Analysis

Special Identifiers:

M - Matrix Spike

N - Matrix Spike Duplicate

E - Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Field Blank	LS-3(3)-01M	LS-3(3)-01-N	LS-3(4)-M	LS-3(4)-N	Field Blank
Lab Sample No.	D97-14402-11	D97-14402-8	D97-14402-9	D97-15123-8	D97-15123-9	D97-15123-10
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Date Collected	11/21/97	11/21/97	11/21/97	12/15/97	12/15/97	12/15/97
Compound (ppb)						
BASE NEUTRALS						
Acenaphthylene	<3.5	80.9	78.8	95.5	90.5	<4.0
Anthracene	<1.9	79	79.8	90.4	85.8	<2.0
Benzidine	<5.7	0	0	<6.0	<6.0	<6.0
Benzo(a)Anthracene	<7.8	87	85.2	98.9	94	<8.0
Benzo(a)Pyrene	<2.5	78	80.9	99.2	94	<3.0
Benzo(b)fluoranthene	<4.8	86.5	92.8	112	106	<5.0
Benzo(ghi)Perylene	<4.1	80.4	82.5	99.2	82.4	<4.1
Benzo(k)Fluoranthene	<2.5	79.1	79.5	87.9	95	<3.0
Bis(2-Chloroethyl)Ether	<5.7	NA	NA	91.6	83.4	<6.0
Bis(2-Chloroisopropyl)Ether	<5.7	NA	NA	NA	81.4	<6.0
Bis(2-Ethylhexyl)Phthalate	<2.5	111	92.3	124	117	3.2
Butyl Benzyl Phthalate	<2.5	108	90.1	120	112	<3.0
Chrysene	<2.5	80.1	79.6	92.5	87.2	<3.0
Dibenzo(a,h)Anthracene	<2.5	67.5	82.6	98.1	81.5	<3.0
1,2-Dichlorobenzene	<1.9	NA	NA	106	101	<2.0
1,3-Dichlorobenzene	<1.9	NA	NA	90.5	88.5	<2.0
1,4-Dichlorobenzene	<4.4	NA	NA	88.7	85.6	<4.4
3,3'-Dichlorobenzidine	<16.5	3.32	1.9	<17.0	<17.0	<17.0
Diethyl Phthalate	<1.9	84.1	83	88.8	80.8	<2.0
Dimethyl Phthalate	<1.8	NA	NA	93	86.8	<2.0
Di-N-Butyl Phthalate	<2.5	85.2	85.8	97.4	95	<3.0
2,4-Dinitrotoluene	<5.7	81.9	76.2	93.6	81.6	<6.0
2,6-Dinitrotoluene	<1.9	89.1	85.7	102	95.3	<2.0
Fluoranthene	<2.2	NA	79.4	78.8	79.5	<2.2
Fluorene	<1.9	82.5	78.3	92.4	86.6	<2.0
Hexachlorobenzene	<1.9	79.7	75.1	93.2	88.4	<2.0
Hexachlorobutadiene	<0.9	NA	NA	80.7	77.4	<1.0
Hexachlorocyclopentadiene	<5.0	NA	NA	74.7	66.9	<5.0

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8270 - BNAs

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Field Blank	LS-3(3)-01M	LS-3(3)-01-N	LS-3(4)-M	LS-3(4)-N	Field Blank
Lab Sample No.	D97-14402-11	D97-14402-8	D97-14402-9	D97-15123-8	D97-15123-9	D97-15123-10
Depth (feet)	N/A	N/A	N/A	N/A	N/A	N/A
Type	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous*
Date Collected	11/21/97	11/21/97	11/21/97	12/15/97	12/15/97	12/15/97
Compound (ppb)						
BASE NEUTRALS						
Hexachloroethane	<1.6	NA	NA	86.8	85.3	<2.0
Indeno(1,2,3-cd)Pyrene	<3.7	73.3	81.3	97.3	81.2	<4.0
Isophorone	<2.2	NA	NA	103	96.1	<2.2
Naphthalene	<1.8	NA	NA	94.8	91.8	<2.0
Nitrobenzene	<1.9	NA	NA	95.3	91.2	<2.0
N-Nitrosodimethylamine	<5.0	NA	NA	37.6	24.8	<5.0
N-Nitrosodiphenylamine	<1.9	90.2	90.7	99	94.8	<2.0
Pentachlorobenzene	<10.0	NA	NA	<10.0	<10.1	<10.0
Phenanthrene	<5.4	82.4	85.6	99.2	92.6	<5.4
Pyrene	<1.9	106	85.3	122	111	<2.0
1,2,4,5-Tetrachlorobenzene	<10.0	NA	NA	<10.0	<10.1	<10.0
1,2,4-Trichlorobenzene	<1.9	NA	NA	86.9	83.5	<2.0
ACID COMPOUNDS						
2-Chlorophenol	<3.3	NA	NA	95.4	73.1	<3.3
2,4-Dichlorophenol	<2.7	NA	NA	90.1	80.6	<3.0
2,4-Dimethyphenol	<2.7	NA	NA	105	79.6	<3.0
4,6-Dinitro-O-Cresol	<24.0	96.8	97.4	102	91.6	<24.0
2,4-Dinitrophenol	<42.0	93.6	95.7	101	81.2	<42.0
2-Nitrophenol	<3.8	NA	NA	106	101	<4.0
4-Nitrophenol	<3.8	61	4.36	47.4	31.3	<4.0
Pentachlorophenol	<3.5	110	117	111	110	<4.0
Phenol	<1.5	NA	NA	48.8	21.6	<2.0
PCBs						
Aroclor 1016	<0.5	NA	NA	0.751	0.768	<0.50
Aroclor 1221	<0.5	NA	NA	0.664	0.713	<0.50
Aroclor 1232	<0.5	NA	NA	NA	NA	<0.50
Aroclor 1242	<0.5	NA	NA	NA	NA	<0.50
Aroclor 1248	<0.5	NA	NA	NA	NA	<0.50
Aroicor 1254	<0.5	NA	NA	NA	NA	<0.50
Aroclor 1260	<0.5	NA	NA	NA	NA	<0.50
Dissolved PCBs						
Aroclor 1016	<0.5	NA	NA	0.675	1.13	<0.50
Aroclor 1221	<0.5	NA	NA	0.556	0.907	<0.50
Aroclor 1232	<0.5	NA	NA	NA	NA	<0.50
Aroclor 1242	<0.5	NA	NA	NA	NA	<0.50
Aroclor 1248	<0.5	NA	NA	NA	NA	<0.50
Aroicor 1254	<0.5	NA	NA	NA	NA	<0.50
Aroclor 1260	<0.5	NA	NA	NA	NA	<0.50

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

NA - Not Analyzed

N/A - Not Applicable

EPA Method 625 - BNAs

(J)-Estimated Concentration

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Field Blank
Lab Sample No.	D98-692-13
Depth (feet)	N/A
Type	Aqueous
Date Collected	1/21/98
Compound (ppb)	
VOLATILES	
Chloromethane	<10.0
Bromomethane	<10.0
Vinyl chloride	<10.0
Chloroethane	<10.0
Methylene chloride	20.3
Acetone	<100
Acrolein	NA
Acrylonitrile	NA
Carbon disulfide	<5.0
1,1 - Dichloroethene	<5.0
1,1 - Dichloroethane	<5.0
cis - 1,2-Dichloroethene	<5.0
trans-1,2-Dichloroethene	<5.0
1,3-Dichloropropene	NA
Chloroform	<5.0
1,2-Dichloroethane	<5.0
2-Butanone	<50.0
1,1,1-Trichloroethane	<5.0
Carbon tetrachloride	<5.0
Bromodichloromethane	<5.0
1,2-Dichloropropane	<5.0
cis-1,3-Dichloropropene	<5.0
Trichloroethene	<5.0
Chlorodibromomethane	<5.0
1,1,2-Trichloroethane	<5.0
Benzene	<5.0
trans-1,3-Dichloropropene	<5.0
Bromoform	<5.0
4-Methyl-2-pentanone	<50.0
2-Hexanone	<50.0
Tetrachloroethene	<5.0
Toluene	<5.0
1,1,2,2-Tetrachloroethane	<5.0
Chlorobenzene	<5.0
Ethylbenzene	<5.0
Styrene	<5.0
o-Xylene	<5.0
m,p-Xylene	<5.0
Total VOCs	
Metals	
Arsenic	NA
Lead	<0.004

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8240 - Volatile Organic Analysis

Special Identifiers:

M - Matrix Spike

N - Matrix Spike Duplicate

E - Equipment Rinse Blank

TABLE A-11 (CONT'D)

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS (AQUEOUS)

UOP - AREAS 1, 1A, AND 5

REMEDIAL ACTION REPORT

Field Sample No.	Field Blank
Lab Sample No.	D98-692-13
Depth (feet)	N/A
Type	Aqueous
Date Collected	1/21/98
Compound (ppb)	
BASE NEUTRALS	
Acenaphthylene	NA
Anthracene	NA
Benzidine	NA
Benzo(a)Anthracene	<12
Benzo(a)Pyrene	<12
Benzo(b)fluoranthene	<12
Benzo(ghi)Perylene	NA
Benzo(k)Fluoranthene	<12
Bis(2-Chloroethyl)Ether	NA
Bis(2-Chloroisopropyl)Ether	NA
Bis(2-Ethylhexyl)Phthalate	NA
Butyl Benzyl Phthalate	NA
Chrysene	<12
Dibenzo(a,h)Anthracene	<12
1,2-Dichlorobenzene	NA
1,3-Dichlorobenzene	NA
1,4-Dichlorobenzene	NA
3,3'-Dichlorobenzidine	NA
Diethyl Phthalate	NA
Dimethyl Phthalate	NA
Di-N-Butyl Phthalate	NA
2,4-Dinitrotoluene	NA
2,6-Dinitrotoluene	NA
Fluoranthene	NA
Fluorene	NA
Hexachlorobenzene	NA
Hexachlorobutadiene	NA
Hexachlorocyclopentadiene	NA

NOTES:

All analyses performed by Inchcape Testing Services. Lab Certification No. 82716

N/A - Not Applicable

EPA Method 8270 - BNAs

Special Identifiers:

M = Matrix Spike

N = Matrix Spike Duplicate