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COMPREHENSIVE SITE ASSESSMENT
CROWELL CONSTRUCTORS
SITE NO. 70
LUMBERTON, NORTH CAROLINA

Prepared for:

North Carolina Department of Transportation
NC0360.212

GERAGHTY & MILLER, INC.
Environmental Services
A **Heidemij** Company

42260-97-3-385N

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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SECRETARY

April 29, 1997

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Art Barnhardt
NCDEHNR
Division of Water Quality - Groundwater Section
Wachovia Bldg. Suite 714
Fayetteville, NC 28301

Subject: Comprehensive Site Assessment Report
Asphaltic Materials Testing Laboratory
Priority Site # 70
Property: Crowell Constructors, Lumberton, NC

Dear Mr. Barnhardt,

In 1989, the North Carolina Department of Transportation (NCDOT) began an assessment of asphaltic materials testing laboratory sites within the state. Due to the extent of time and cost for the NCDOT and the North Carolina Department of Environment Health and Natural Resources (NCDEHNR) to undertake such an assignment, the 1996 General Assembly provided limited funding for an assessment of the seventy-two sites located within the state. The mandate by the Joint Legislative Transportation Oversight Committee required the assessments and DEHNR review be completed by July 1, 1997. The purpose of this letter is to submit a comprehensive site assessment report for the subject site. It is our opinion that this report adequately defines existing conditions at the site relative to asphalt testing contamination at the time of the investigation.

Pursuant to Memorandum of Agreements (4/1/96, 7/1/96 and the 1989 MOA) signed between NCDOT and NCDEHNR, the seventy-two sites will be assessed and analyzed by agreed upon methods for these contaminants only: Carbon Tetrachloride, Trichloroethene, 1-1-1 Trichloroethane and their degradation compounds ("the target chlorinated solvents"). NCDEHNR has agreed to respond in writing within two to three weeks upon receipt of the seventy-two assessment reports.

Due to the volume, complex nature and time frame of the site assessments being conducted across the state, it is recommended if additional testing is required that the work efforts be completed during the development of the corrective action plan. At that time additional testing will more accurately reflect future site conditions and issues regarding responsibility will have been addressed by NCDEHNR.

Sincerely,

Thomas C. Niver, P.G., CHMM
Environmental Engineer, Safety & Loss Control

enclosure

cc: Duane MacEntee, NCDOT
Ted Bush, NCDEHNR
Bryan Brice, Attorney General's Office, Transportation
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William Smith, Robeson County Health Department
Willie A. Best, Robeson County Manager

COMPREHENSIVE SITE ASSESSMENT REPORT
SITE NO. 70
CROWELL CONSTRUCTORS
LUMBERTON, NORTH CAROLINA

April 1997

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COMPREHENSIVE SITE ASSESSMENT REPORT
SITE NO. 70
CROWELL CONSTRUCTORS
LUMBERTON, NORTH CAROLINA

April 1997

Provided by GERAGHTY & MILLER, INC.

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COMPREHENSIVE SITE ASSESSMENT REPORT
SITE NO. 70
CROWELL CONSTRUCTORS
LUMBERTON, NORTH CAROLINA

PREFACE

In 1989, the North Carolina Department of Transportation (NCDOT) began an assessment of asphalt materials testing laboratory sites within the state. Due to the extent of time and cost for the NCDOT and the North Carolina Department of Environment, Health, and Natural Resources (NCDEHNR) to undertake such an assignment, the 1996 General Assembly provided limited funding for an assessment of the seventy-two sites located within the state. The mandate by the Joint Legislative Transportation Oversight Committee required the assessments and NCDEHNR review be completed by July 1, 1997.

Pursuant to Memoranda of Agreement (MOA) (4/1/96, 7/1/96, and 1989) signed between the NCDOT and NCDEHNR, the 72 sites will be assessed and analyzed by agreed upon methods for these contaminants only: carbon tetrachloride, trichloroethene, 1,1,1-trichloroethane, and their degradation compounds ("the target chlorinated solvents"). NCDEHNR has agreed to respond in writing within 2 to 3 weeks upon receipt of the 72 assessment reports.

Due to the volume, complex nature, and time frame of the site assessments being conducted across the state, it is recommended that if any additional testing is required that the work efforts be completed during the development of the Corrective Action Plan. At that time, issues regarding responsibility will have been addressed by NCDEHNR and the additional testing will more accurately reflect future site conditions. It is our opinion that this report adequately defines existing conditions at the site relative to asphalt testing contamination at the time of the investigation and is sufficient to prepare a Comprehensive Site Assessment (CSA) report.

COMPREHENSIVE SITE ASSESSMENT REPORT
SITE NO. 70
CROWELL CONSTRUCTORS
LUMBERTON, NORTH CAROLINA

EXECUTIVE SUMMARY

This report presents findings of soil and groundwater assessment activities conducted during July and September 1996 on behalf of the North Carolina Department of Transportation (NCDOT) at the Crowell Constructors facility, which housed Site No. 70 asphalt testing laboratory from 1976 to 1989. On-site testing of asphalt following the American Society of Testing Materials (ASTM) Method D 2172-88 was conducted. The procedure used chlorinated solvents for the quantitative extraction of bitumen from bituminous paving mixtures. The testing procedures required the use of one or more of the following chlorinated solvents: carbon tetrachloride, trichloroethene (TCE), and 1,1,1-trichloroethane (1,1,1-TCA).

The field activities were conducted on behalf of the NCDOT Safety and Loss Control Division to define the extent of target chlorinated solvents impacts to the soil and groundwater at the site. The contaminants consist of the chlorinated solvents (target chlorinated solvents) carbon tetrachloride, TCE, 1,1,1-TCA, and their degradation products (chloroform; methylene chloride; methyl chloride; cis-1,2-dichloroethene; trans-1,2-dichloroethene; 1,1-dichloroethene; 1,1-dichloroethane; vinyl chloride; and chloroethane). The disposition of the spent solvents from the former testing operations is not well documented. However, it is known that spent solvents were generated as a result of asphalt testing and such spent solvents may have been stored, possibly spilled, or disposed of on-site, thereby creating the potential for soil and groundwater contamination.

In 1989, a Memorandum of Agreement (MOA) was entered into between NCDOT and the North Carolina Department of Environmental Health and Natural Resources (NCDEHNR), Division of Water Quality (DWQ), Groundwater Section to conduct site assessments at 72 sites within the state where asphalt testing was conducted. NCDOT conducted initial screening investigations in 1989 pursuant to the MOA, followed by the preparation of Comprehensive Site

Assessments at 22 of these sites. In 1996, with funding from the General Assembly and a mandate from the Joint Legislative Transportation Oversight Committee, NCDOT continued site assessments at the remaining sites.

The NCDOT conducted a survey to identify which former asphalt testing facilities had a potential release of target chlorinated solvents. Based on these surveys, the NCDEHNR ranked, in order of importance, the sites for future investigations. A site screening investigation was conducted by an NCDOT Site Safety Engineer in June 1989. One water sample and one soil sample were collected from the site. The water sample was collected from a surface runoff retention pond; the soil sample location is unknown. A 1,1,1-TCA concentration of 1.64 micrograms per liter (µg/L) was detected in the water sample. Analysis of the soil sample did not detect target chlorinated solvents above the method detection limits. As part of the investigation, the NCDEHNR evaluated the site using the North Carolina Groundwater Contamination Incident Management Site Priority Ranking System and ranked the site for the state's priority clean-up list.

An MOA between NCDOT and DWQ was signed in April 1996, outlining the scope of work to be followed during the Phase I Screening Site Investigation at the asphalt priority sites. The site assessments were to be conducted based on the agreed-upon methods and in accordance with DWQ's "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater." The assessments were to focus only on the specific contaminants associated with former asphalt testing including: carbon tetrachloride, TCE, 1,1,1-TCA, and their degradation products ("the target chlorinated solvents"). A target chlorinated solvents transformation pathways flow chart is included in Appendix A. A CSA report was prepared based on the findings of this investigation.

A letter of agreement between the NCDOT and DWQ, signed on July 3, 1996, outlines the laboratory analytical methods for the Phase II investigations at the asphalt priority sites. In accordance with DWQ's "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater," US Environmental Protection Agency (USEPA) SW-846 Method 8021 was used for the vertical and horizontal delineation of soil, and USEPA Methods 601 and 602 were used for the vertical and horizontal delineation of groundwater. In addition, samples

were collected from within the source area and analyzed by USEPA SW-846 Method 8260B for compound confirmation. Copies of the letters of agreement are included in Appendix A.

The Crowell Constructors facility, which housed Site No. 70, is approximately 7 miles southwest of Lumberton, North Carolina. The site property, which consists of approximately 74 acres in Robeson County, is a modern asphalt plant which produces asphalt materials for roadway construction. The former asphalt testing laboratory was located in the current sand/gravel stockpile area and is no longer in existence. The location of the former asphalt testing laboratory was determined by conversations with representatives from Crowell Constructors and an aerial photograph. The site is in a rural/undeveloped land area approximately 1 mile northwest of I-95 on US Highway 74. The site topography is characterized as relatively flat and sloping to the east-northeast at an elevation of approximately 130 feet above mean sea level (ft msl).

This investigation was confined to the area surrounding the former asphalt testing laboratory because (1) asphalt testing activities were confined to that building, and (2) the source area (i.e., contaminated soil), if present, would be in the immediate vicinity of the building, based on a knowledge of laboratory practices.

Field activities included site reconnaissance, a soil-vapor survey, collected soil samples at 9 locations around the former asphalt testing laboratory building using Geoprobe™, collected groundwater samples at 6 locations around the former asphalt laboratory building using Geoprobe™ and hand auger technology, installed 11 shallow and 1 deep groundwater monitor wells, collected groundwater samples from the monitor wells for analysis of target chlorinated solvents, conducted aquifer (slug) testing on 3 selected wells to determine aquifer characteristics, gauged groundwater levels in the wells to evaluate shallow groundwater flow direction, and surveyed the top of casings at each monitor well.

Soil underlying the site consists primarily of reddish-brown to white silts with minor amounts of clay, fine to medium-grained sands, and micas.

Based on the gauging data from the monitor wells, groundwater was encountered at depths ranging from approximately 3 to 7.5 feet below land surface (ft bls). The groundwater in the uppermost water-bearing zone flows across the site in a northeastern direction.

Due to the high water table at the site, soil samples were collected from 0 to 4.5 ft bls in the ten soil borings. Based on the results of the soil-vapor and soil direct push technology (DPT) investigations, soil-adsorbed target chlorinated solvents were not detected in the vicinity of the former asphalt testing laboratory.

Soil sources of target chlorinated solvents were not identified to a depth of 4.5 ft bls. If such sources were present, they would have most likely been present in the areas and depths tested.

Results of the groundwater investigation indicate that groundwater in the unconfined aquifer at this site has been impacted by dissolved target chlorinated solvents above the 15A NCAC 2L Groundwater Quality Standards. However, groundwater samples collected from upgradient and crossgradient monitor wells (70MW-4, 70MW-7, 70MW-8, 70MW-10, and 70MW-11) and the deep well (70DW-1) did not detect any target chlorinated solvents above the 15A NCAC 2L Groundwater Quality Standards; therefore, the vertical and lateral extents of dissolved-phase target chlorinated solvents have been adequately delineated to the south, west, and east. A low concentration of TCE (16 μg/L) was detected in downgradient well MW-9, located north of wells 70MW-1, 70MW-2 and 70MW-6, above the NCAC 2L Groundwater Quality Standard. Delineation of the plume to the north of 70MW-9 was not possible due the presence of on site surface water ponds and the adjacent swampy area that was not conducive to drilling.

Based on review of the data presented in this report, target chlorinated solvents have been adequately defined vertically and to the east, west, and south of 70MW-1; however, the horizontal extent of groundwater contamination north of 70MW-1 has not been adequately defined.

Further investigation during the development of the Corrective Action Plan at this site is recommended to determine the extent of the contamination to the north of 70MW-9 in excess of the 15A NCAC 2L standards. Since it is uncertain when the implementation of corrective action will occur, prior to the implementation of a CAP, further evaluation may be necessary to determine the most feasible option available at the future time of CAP preparation.

COMPREHENSIVE SITE ASSESSMENT REPORT
NCDOT SITE NO. 70
CROWELL CONSTRUCTORS
LUMBERTON, NORTH CAROLINA

1.0 PURPOSE AND SCOPE OF INVESTIGATION

This report presents findings of soil and groundwater assessment activities conducted during July and September 1996 on behalf of the North Carolina Department of Transportation (NCDOT) at the Crowell Constructors facility, which housed Site No. 70 asphalt testing laboratory from 1976 to 1989. On-site testing of asphalt following the American Society of Testing Materials (ASTM) Method D 2172-88 was conducted. The procedure used chlorinated solvents for the quantitative extraction of bitumen from bituminous paving mixtures. The testing procedures required the use of one or more of the following chlorinated solvents: carbon tetrachloride, trichloroethene (TCE), and 1,1,1-trichloroethane (1,1,1-TCA).

The field activities were conducted on behalf of the NCDOT Safety and Loss Control Division to define the extent of target chlorinated solvents impacts to the soil and groundwater at the site. The contaminants consist of the chlorinated solvents (target chlorinated solvents) carbon tetrachloride, TCE, 1,1,1-TCA, and their degradation products (chloroform; methylene chloride; methyl chloride; cis-1,2-dichloroethene; trans-1,2-dichloroethene; 1,1-dichloroethene; 1,1-dichloroethane; vinyl chloride; and chloroethane). The disposition of the spent solvents from the former testing operations is not well documented. However, it is known that spent solvents were generated as a result of asphalt testing and such spent solvents may have been stored, possibly spilled, or disposed of on-site, thereby creating the potential for soil and groundwater contamination.

In 1989, a Memorandum of Agreement (MOA) was entered into between NCDOT and North Carolina Department of Environmental Health and Natural Resources (NCDEHNR), Division of Water Quality (DWQ), Groundwater Section to conduct site assessments at 72 sites within the state where asphalt testing was conducted. NCDOT conducted initial screening investigations in 1989 pursuant to the MOA, followed by the preparation of Comprehensive Site

Assessments (CSA) at 22 of these sites. In 1996, with funding from the General Assembly and a mandate from the Joint Legislative Transportation Oversight Committee, NCDOT continued site assessments at the remaining sites.

An MOA between NCDOT and DWQ was signed in April 1996, outlining the scope of work to be followed during the Phase I Screening Site Investigation at the asphalt priority sites. The site assessments were to be conducted based on the agreed-upon methods and in accordance with DWQ's "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater." The assessments were to focus only on the specific contaminants associated with former asphalt testing including: carbon tetrachloride, TCE, 1,1,1-TCA, and their degradation products such as chloroform;, methylene chloride; methyl chloride; cis-1,2-dichloroethene; trans-1,2-dichloroethene; 1,1-dichloroethene; 1,1-dichloroethane; vinyl chloride; and chloroethane ("the target chlorinated solvents"). A target chlorinated solvents transformation pathways flow chart and copies of the letters of agreement are included in Appendix A. This CSA report was prepared based on the findings of the investigation.

A letter of agreement between the NCDOT and DWQ, signed on July 3, 1996, outlines the laboratory analytical methods for the Phase II investigations at the asphalt priority sites. In accordance with DWQ's "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater," US Environmental Protection Agency (USEPA) SW-846 Method 8021 will be used for the vertical and horizontal delineation of soil; USEPA Methods 601 and 602 were used for the vertical and horizontal delineation of groundwater. For sites that did not obtain groundwater analytical results during the Phase I investigation, groundwater samples were collected for plume delineation by Standard Method (SM) 6230D. In addition, samples were collected from within the source area and analyzed by USEPA SW-846 Method 8260B for compound confirmation.

The overall objectives of the investigation were to identify any contaminants associated with the former asphalt testing laboratory activities (target chlorinated solvents), and determine the nature and horizontal and vertical extent of contamination for soils and groundwater as outlined in the site-specific Phase I Work Plan and the Project Quality Assurance Plan (Project

QAP) for the North Carolina Department of Transportation Asphalt Testing Facility (Geraghty & Miller, 1996). Geraghty & Miller personnel:

- Conducted a soil-vapor survey at 10 locations in the vicinity of the former asphalt testing laboratory building;
- Obtained soil samples at nine locations around the former asphalt testing laboratory building using Geoprobe™ and hand auger technology;
- Obtained groundwater samples at six locations around the former asphalt laboratory building using Geoprobe™;
- Installed 11 shallow and 1 deep groundwater monitor wells;
- Collected groundwater samples from the monitor wells for analysis of target chlorinated solvents;
- Conducted aquifer (slug) testing on three selected wells to determine aquifer characteristics;
- Gauged groundwater levels in the wells to evaluate shallow groundwater flow direction; and
- Surveyed the top of casings at each monitor well.

2.0 SITE DESCRIPTION

2.1 AREA OF INVESTIGATION

The Crowell Constructors facility, which housed Site No. 70, is approximately 7 miles southwest of Lumberton, North Carolina (Figure 2.1). The site property, which consists of approximately 74 acres in Robeson County, is a modern plant which produces asphalt materials for roadway construction. The former asphalt testing laboratory was located in the current sand/gravel stockpile area and is no longer in existence. The location of the former asphalt testing laboratory was determined by conversations with representatives from Crowell Constructors and an aerial photograph. Figure 2.2 shows the site layout of the plant. The site is in a rural/undeveloped land area approximately 1 mile northwest of I-95 on US Highway 74. The site topography is characterized as relatively flat and sloping to the east-northeast at an elevation of approximately 130 feet above mean sea level (ft msl).

This investigation was confined to the area surrounding the former asphalt testing laboratory because (1) asphalt testing activities were confined to that building, and (2) the source area (i.e., contaminated soil), if present, would be in the immediate vicinity of the building, based on a knowledge of laboratory practices.

2.2 CONTAMINANT SOURCE INVENTORY

Historically, the solvent types used in asphalt testing included: carbon tetrachloride, TCE, and 1,1,1-TCA or "TRICO." According to NCDOT personnel, historical records on solvent types and usage for Site No. 70 asphalt testing laboratory do not exist.

2.3 ADJACENT PROPERTIES

The site property consists of approximately 74 acres in a rural, undeveloped land area and is bordered by US Highway 74 to the southwest, the Lumber River to the northeast, and undeveloped land to the northwest and southeast. A map depicting the site and adjacent properties is included as Figure 2-3. A list of property owners is presented as Table 2-1.

2.4 POTENTIAL RECEPTORS SURVEY

The Crowell Constructors former asphalt testing laboratory is in an area of undeveloped/rural land use. A potential receptors survey was conducted by reconnaissance of the site vicinity and by obtaining an Environmental Data Resources, Inc. (EDR) database search. It was determined that there are no municipal water-supply wells within 1,500 feet of the site, and there are no surface-water intakes for public water supplies within 0.5 mile of the site. The surrounding rural area is moderately populated, and residents rely on the municipal water supply for potable water.

2.5 TOPOGRAPHY AND SURFACE WATER DRAINAGE

The site location is depicted on the Lumberton North 7.5-minute topographic map quadrangle (Figure 2-4). Topography in the immediate area is characterized by very low topographic relief. The elevations on the site property range from approximately 130 to 135 ft msl. The site is on the northeast side of a northwest-southeast-trending ridge. US Highway 74 runs along the spine of this ridge. The site is bordered on the northeast by the Lumber River and on the northwest and southeast by undeveloped properties.

2.6 WATER WELL INVENTORY/WATER SUPPLY

Water was previously supplied to the former asphalt testing laboratory by an on-site production well. Presently, the site receives water and sewer services from Robeson County. Surface-water runoff and water used at the plant are captured by drainage swales and containment ponds on the site property.

2.7 UTILITY SURVEY

The Crowell Constructors facility is furnished with city utilities, including electric and telephone. Public utility electric lines enter the property overhead. Numerous power conductors and control utility lines for plant operation are underground, as are natural gas lines. The utility locations are depicted in Figure 2-2.

3.0 PREVIOUS INVESTIGATIONS/BACKGROUND DATA

A site screening investigation was conducted by a NCDOT Site Safety Engineer in June 1989. One water sample and one soil sample were collected from the site. The water sample was collected from a surface runoff retention pond; the soil sample location is unknown. A 1,1,1-TCA concentration of 1.64 micrograms per liter (µg/L) was detected in the water sample. Analysis of the soil sample did not detect target chlorinated solvents above the method detection limits. As part of the investigation, the NCDEHNR using the North Carolina Groundwater Contamination Incident Management Site Priority Ranking System evaluated and ranked the site for the state's priority clean-up list. No other information is available on any previous or ongoing investigations at the subject site.

Background data were obtained from the NCDEHNR, NCDOT (aerials), and EDR. Review of data compiled from these resources indicated that there are no permits or previous violations concerning the subject property or surrounding area. The EDR report is provided in Appendix C.

An aerial photograph of the site and surrounding land was obtained from the NCDOT and reviewed to aid in determining past land usage and to identify any potential environmental concerns. Based on review of the February 10, 1989, aerial photograph, the following observations were made. The majority of the land surrounding the site was predominantly undeveloped woodlands/agricultural land. The Lumber River is east of the site. A few residential properties are located in the vicinity of the site. The former asphalt testing laboratory is present.

4.0 POTENTIAL RECEPTORS AND ROUTES OF MIGRATION

4.1 POTENTIAL RECEPTORS

Potential receptors, as applied herein, are defined as features such as water-supply wells, surface-water bodies, or basements that could be adversely affected by the presence of the dissolved target chlorinated solvents detected at the site.

- Land use surrounding the site is predominantly undeveloped or agricultural land;
- Private water-supply wells were not identified within 1,500 feet of the site;
- Numerous power conductors, control utility lines, and natural gas lines for plant operation are underground;
- Open surface-water bodies were identified adjacent to the site. The closest identified surface-water body is the Lumber River, which is north of the site; and
- Basements were not observed on adjacent properties.

4.2 ROUTES OF MIGRATION

Humans can be exposed when they come in contact with groundwater, soil, surface water, or ambient air that has been impacted by target chlorinated solvents. The major routes of exposure are by inhalation, dermal absorption, and ingestion. In general, following a release to the subsurface, the greatest mass of target chlorinated solvents is present in the soil-adsorbed phase. However, the most mobile phases are the vapor, dissolved, and liquid.

If concentrations of target chlorinated solvents above the 15A NCAC 2L Standards existed at the site, the Lumber River could be a possible route of migration and a possible exposure pathway for humans.

5.0 SUMMARY OF WORK SCOPE

Geraghty & Miller performed the following field activities at the site from September 1996 through January 1997: (1) site reconnaissance, including measurement of building dimensions and other site features to further refine the base site map; (2) a soil-vapor survey at 10 locations in the vicinity of the asphalt laboratory building; (3) soil sampling at 9 locations around the former asphalt testing laboratory building using Geoprobe™; (4) groundwater sampling at 6 locations around the former asphalt testing laboratory building; (5) installation of 11 Type II and 1 Type III monitor wells; (6) collection and analyses of groundwater samples from the monitor wells; (7) conducted aquifer (slug) testing on three selected wells; and (8) water-level measurements and well surveying.

5.1 SOIL-VAPOR SURVEY AND DIRECT PUSH TECHNOLOGY (DPT) ADVANCEMENT

5.1.1 Soil-Vapor Survey

The soil-vapor sampling points (SV-1 through SV-10) were placed around a screened gravel aggregate stockpile that was located in the area of the former asphalt testing laboratory. The primary objective of the soil-vapor survey was to locate areas of elevated soil-vapor concentrations to assist in determining soil sampling locations. Soil-vapor sampling locations are depicted in Figure 5-1. Details of the soil-vapor survey are presented in Section 6.1.

5.1.2 Direct Push Technology (DPT) Advancement

DPT advancement of soil borings was accomplished using Geoprobe™ equipment. Soil samples were collected at nine locations around the former location of the asphalt testing building to investigate the possible presence of soil-sorbed phase target chlorinated solvents. The rationale for each soil sample location is as follows:

- Sample SS-1 was collected in the area of SV-5 and SV-6 where elevated readings were recorded;

- Sample SS-2 was collected in the area of SV-3 and SV-4 where elevated readings were recorded;
- Sample SS-3 was collected in the area of SV-2 where elevated readings were recorded;
- Samples SS-4 and SS-5 were collected in the area of SV-9 and SV-10 to confirm the absence of photoionizable soil-vapors;
- Sample SS-6 was collected in the area of SV-7 to confirm the absence of photoionizable soil-vapors;
- Sample SS-7 was collected to confirm the presence of methylene chloride detected in the soil sample collected from SS-3;
- Sample SS-8 was collected to confirm the presence of methylene chloride detected in the soil sample collected from SS-2;
- Sample SS-9 was collected to confirm the presence of methylene chloride detected in the soil sample collected from SS-1; and
- Sample SS-10 was collected to confirm the presence of methylene chloride detected in the soil sample collected from SS-4.

Soil sampling locations are depicted in Figure 5-2. Details of the soil boring sampling investigation are presented in Section 6.2.

5.2 GROUNDWATER SAMPLING

5.2.1 Temporary Piezometer Installation and DPT Groundwater Sampling

To investigate the possible presence of dissolved-phase target chlorinated solvents, to determine the groundwater gradient, and to comply with the requirements of the April 1996 letter

of agreement between the NCDOT and DWQ, temporary piezometers were to be installed using Geoprobe™ equipment at six locations around the former asphalt testing laboratory.

On September 20, 1996, six temporary piezometers (GW-1 through GW-6) were installed at locations surrounding the former asphalt testing laboratory. Piezometers GW-1, GW-2, GW-3, and GW-6 were installed presumably upgradient of the former asphalt testing laboratory. Piezometers GW-4 and GW-5 were installed presumably downgradient of the former asphalt testing laboratory. Details of the temporary piezometer investigation are presented in Section 6.3.

5.2.2 Monitor-Well Installation

Eleven shallow Type II and one deep Type III monitor wells were installed to evaluate the potential horizontal and vertical extent of dissolved target chlorinated solvents in the groundwater at the site and to assess hydrogeologic conditions and/or parameters in the water table aquifer. The rationale for each monitor well location is as follows:

- Monitor Wells 70MW-1 and 70DW-1 were installed northwest of the former asphalt testing laboratory to determine the downgradient extent of the dissolved target chlorinated solvents plume;
- Monitor Well 70MW-2 was installed northeast of the former asphalt testing laboratory to monitor any possible upgradient sources;
- Monitor Wells 70MW-3 and 70MW-4 were installed south-southeast of the former asphalt testing laboratory to monitor upgradient sources;
- Monitor Wells 70MW-5 and 70MW-6 were installed north and east of the former asphalt testing laboratory to determine the downgradient edge of the dissolved target chlorinated solvent plume; and

- Monitor Wells 70MW-7, 70MW-8, 70MW-9, and 70MW-10 were installed downgradient of wells 70MW-2, 70MW-5, and 70MW-6 to determine the downgradient extent of the dissolved target chlorinated solvent plume.

A summary of well-construction details for all site wells is presented in Table 5-1. Drill logs for the wells are included in Appendix E.

5.2.3 Surveying

A water-level measuring point (top of casing) was established at each monitor well. The horizontal position (± 1.0 foot) and elevations (± 0.01 foot), relative to an assumed site elevation of 600 ft msl, for monitor wells 70MW-1 through 70MW-10 and 70DW-1 were surveyed by Piedmont Olsen Hensley.

5.2.4 Investigative-Derived Waste

Thirty-six 55-gallon drums of investigative-derived waste (IDW) were generated during the site investigation activities at Site No. 70. The drums contain drill cuttings, development water, decontamination water from soil and groundwater sampling, purge water from well sampling, excess soil from Geoprobe™ soil sampling and well installation, polyethylene tubing, nylon rope, used Geoprobe™ soil sampling sleeves, and other expendable sampling supplies.

6.0 SAMPLE COLLECTION METHODOLOGY

6.1 SOIL-VAPOR SURVEY SAMPLE COLLECTION

On September 19, 1996 a soil-vapor survey using the Microseeps™ portable soil gas sampling system was conducted at 10 points around the former asphalt testing laboratory building. Figure 5-1 shows the soil-vapor sample locations. The soil-vapor samples were collected at each sampling point from a depth of 2.5 to 4 feet below land surface (ft bls) in accordance with the standard operating procedures (SOPs) contained in the Project QAP. A Thermo Environmental Instruments, Inc. Model 580B portable photoionization detector (PID) was used to screen the samples by connecting a tube from the Tedlar™ bag to a connector on the PID. The Microseeps™ equipment and Tedlar™ sample bag were purged with ultra-high-purity (UHP) zero air between sample points.

6.2 DPT BORING SOIL SAMPLE COLLECTION AND FIELD SCREENING

Soil samples were collected at nine locations around the former asphalt testing laboratory building on September 19 (SS-1 through SS-6) and December 13, 1996 (SS-7 through SS-10). Figure 5-2 shows the soil sampling locations. Soil samples were collected using Geoprobe™ DPT and hand auger techniques in accordance with the SOPs contained in the Project QAP. The Geoprobe™ sampling and hand auger equipment were decontaminated prior to each sample location and subsequent depth interval in accordance with the Project QAP.

Sample collection was attempted at 0 to 4.5 ft bls. Samples were not collected below 4.5 feet to avoid the potential for drag down on contamination into the observed shallow groundwater table. At each sampling location, the acetate sleeve was removed from the Geoprobe™ core barrel, cut open, and screened using the Thermo Environmental Model 580B PID. One sample was collected from the portion along the interval yielding the highest PID reading. Samples were collected in laboratory-provided, 4-ounce glass containers, labeled, and placed in an insulated cooler on wet ice to preserve at or below 4°C. The samples were shipped via overnight courier to Paradigm Analytical Laboratories, Inc. (Paradigm), Wilmington, North Carolina, for analysis of target chlorinated solvents by USEPA SW-846 Method 8021. Sample

containers, packaging, custody, and shipping protocol were followed in accordance with the Project QAP.

6.3 DPT GROUNDWATER COLLECTION

On September 20, 1996, six temporary piezometers (GW-1 through GW-6) were installed using Geoprobe™ equipment at locations around the former asphalt testing laboratory building (Figure 4-3). The piezometers were installed to depths ranging from 10 ft bls to 15 ft bls, within 2 to 8 feet below the apparent water table. Groundwater samples were collected from the temporary piezometers using a clean, disposable polyethylene bailer and clean nylon rope. The sample was collected in laboratory-provided, 40-mL glass sample vials, labeled, and placed in an insulated cooler on wet ice to preserve at or below 4°C. The sample containers were shipped overnight to Paradigm for analysis of target chlorinated solvents by SM 6230D. Sample containers, packaging, custody, and shipping protocol were followed in accordance with Sections 8.0, 9.0, and 10.0 of the Project QAP (Geraghty & Miller, 1996).

6.4 MONITOR-WELL INSTALLATION

Each shallow well (70MW-1 through 70MW-11) was constructed of 2-inch inner diameter (ID) Schedule 40 Polyvinyl Chloride (PVC) solid casing and factory-slotted well screen (0.010-inch slots) connected by threaded, flush joints. The screen of each well is equipped with a PVC bottom cap. The solid PVC casing of each well extends from the top of the well screen to approximately 6 inches below grade. The annular space of each well is packed with washed sand to a minimum level of 2 feet above the top of the well screen. A 2-foot-thick bentonite seal rests on top of the sand pack, above which a cement grout extends to within approximately 4 inches below the top of the PVC casing. The PVC casing of each well is equipped with a sealed, locking cap to prevent unauthorized access. In addition, each well casing is protected with a steel, water-tight manhole set to grade within a concrete pad.

One deep monitor well (designated 70DW-1) was installed between November 6 and 8, 1996, at a depth of 52 ft bls.

The deep well construction was performed in two phases. During the first phase, a 6-inch-diameter galvanized steel casing was inserted into the drilled hole. A concrete plug was installed at the lower end of the casing. Void spaces around the exterior of the casing were then filled with concrete and allowed to "setup" for at least 12 hours.

Phase two involved drilling through the concrete plug at the bottom of the galvanized steel casing and installing a well as described above. A well-construction table for the deep well and monitor wells is presented in Table 5-1. Well-construction diagram logs for the deep well are provided in Appendix E.

6.5 MONITOR-WELL DEVELOPMENT

Following installation, the monitor wells were developed to improve the hydraulic communication between the formation and the monitor wells and to ensure that representative groundwater samples are collected. The monitor wells were developed by centrifugal pump for a period of 1 hour.

6.6 MONITOR-WELL GROUNDWATER SAMPLE COLLECTION

On November 11 through 13, 1996, site monitor wells 70MW-1 through 70MW-6 and 70DW-1 were gauged for depth to water using an electric water-level meter. On January 7 and 8, 1997, site monitor wells 70MW-1 through 70MW-11 and 70DW-1 were gauged for depth to water using an electric water-level meter. However, on January 7 and 8, 1997, groundwater samples were collected only from wells MW-7 through 70MW-11. Prior to sample collection, a minimum of three well volumes were purged from each well using polyethylene bailers.

Groundwater samples were collected from each well and placed in laboratory-supplied containers. The containers were then maintained on ice in coolers and shipped via overnight courier to Paradigm for laboratory analysis. The groundwater samples from wells 70MW-2 through 70MW-11 were analyzed for target chlorinated solvents by USEPA Methods 601 and 602. The groundwater samples collected from wells 70MW-1 and 70DW-1 were analyzed for target chlorinated solvents by USEPA SW-846 Method 8260B for plume delineation as stated in

the July 3, 1996, letter of agreement between the NCDOT and NCDEHNR. Proper chain-of-custody documentation was maintained during sample shipment.

6.6.1 Slug Testing

In-situ hydraulic conductivity tests (slug tests) were performed on monitor wells 70MW-1, 70MW-2, and 70MW-5 on November 11, 1996, to determine an average hydraulic conductivity for the uppermost water-bearing zone at the site. Rising head and falling head slug tests were conducted using a pressure transducer. The transducer was connected to an In-Situ, Inc. Hermit™ data logger, which was programmed to record water-level measurements at logarithmic intervals. A solid cylinder (slug) of known volume was lowered into the test well, creating an instantaneous, positive change in the water level. The rate at which the water level returned to static conditions was recorded as test 1 (slug-in data). Once the water level recovered, test 1 was stopped. The data logger was then programmed to begin recording data for test 2. The data logger was activated, and the slug was immediately removed from the well, creating an instantaneous, negative change in the water level. The water-level recovery rate also was recorded (slug-out data). The transducer was removed from the well. The transducer and cable were decontaminated with a soapy water solution and rinsed before and after each well test. The data collected during the slug tests were downloaded from the data logger and analyzed using the Bouwer and Rice method utilizing AQTESOLV™ to determine the hydraulic properties of the uppermost bedrock aquifer. The results of the tests are provided in Appendix F.

6.7 SAMPLE IDENTIFICATION

A sample identification system was developed to enable the field personnel to establish unique and appropriate identifications for each sample collected. This system incorporates identifiers for the sample matrix, the sample location, and the sample number. The identification system has been designed to give reference to previously-existing sample location identification numbers. The identification number consists of the site identification, sample matrix and location code, and sample number. For soil borings, the sample matrix and location code was followed by

the depth interval sampled in ft bls. Field replicates and equipment blanks were designated with "REP" and "EB," respectively, followed by the sample matrix codes.

The following are provided as examples to illustrate the use of the system for groundwater and soil samples:

Shallow Monitor-Well Groundwater Samples:	70MW-#; 70MW-#GW
Deep Monitor-Well Groundwater Samples:	70DW-#
Geoprobe Groundwater Samples:	GW-#
Soil Samples:	70SS-#; SS-#
Surface-water Samples:	SW-#
Field QC Samples:	
Equipment Blanks:	70EB-#-GW; EB-#-GW
	70EB-#-SS; EB-#-SS
Trip Blanks:	TB-#-(Date); 70TB-#-(Date)
Replicates:	REP-#-GW; 70REP-#-GW
	REP-#-SS; 70REP-#-SS

6.8 CHAIN-OF-CUSTODY AND TRANSPORTATION PROCEDURES

The field personnel were responsible for the care and custody of collected samples until the samples were properly and formally transferred to another person or facility. To simplify the chain-of-custody record, as few people as possible handled the sample or physical evidence during the investigation or inspection. All field documentation was completed using waterproof, indelible ink on either Geraghty & Miller pre-printed forms or in bound field logbooks. A chain-of-custody form was completed for all samples or physical evidence collected.

7.0 SAMPLE ANALYSIS

The purpose of this section is to evaluate the laboratory analytical data for the completeness of data package deliverables (Modified Level II reporting level). The soil, groundwater, surface-water, and associated quality control (QC) sample data were validated following the rules set forth in the Functional Guidelines for Evaluating Organic Analyses (USEPA, 1994). Additionally, all field data were reviewed to verify the completion of required documentation. The Paradigm analytical data reports (G149-39, 40, 61, 62 and 80) are presented in Appendix G.

7.1 FIELD QUALITY ASSURANCE COMPONENTS

All field activities were appropriately documented on water and soil sampling logs. Geoprobe™ soil, Geoprobe™ groundwater, surface-water, and associated QC samples were collected on September 19 and 20, 1996. Hand auger soil, monitor well groundwater, and associated QC samples were collected on November 12 and 13, 1996. Monitor well groundwater and associated QC samples also were collected on January 7 and 8, 1997. All samples were appropriately labeled, stored in sample containers on ice at 4°C, and shipped to Paradigm via overnight courier. Chain-of-custody forms were forwarded with the samples and custody seals were affixed to the coolers prior to shipment to Paradigm.

Trip blank sample TB-01-(9/19/96) and equipment rinsate blank sample EB-01-SS were included in the soil sample program and analyzed for target chlorinated solvents using USEPA SW-846 Method 8021. Trip blank sample TB-01-(9/20/96) and equipment rinsate blank sample EB-01-GW were associated with the groundwater samples and analyzed for target chlorinated solvents by SM 6230D. An equipment rinsate blank sample was not collected in association with surface-water sample SW-1. The two field duplicate samples REP-01-SS (SS-4-4) and REP-01-GW (GW-2) were collected to assess field and analytical precision. Additionally, samples SS-5-4 and GW-3 were designated in the field for matrix spike/matrix spike duplicate (MS/MSD) analysis.

Trip blank sample 70TB-01-(11/13/96) and equipment rinsate blank sample 70EB-01-SS were included in the soil sample program conducted on November 3, 1996 and analyzed for target chlorinated solvents by USEPA SW-846 Method 8021. Trip blank sample 70TB-01-(11/12/96) and equipment rinsate blank sample 70EB-01-GW were associated with the groundwater and QC samples collected on November 12, 1996 and analyzed for target chlorinated solvents by USEPA Methods 601 and 602. The groundwater and QC samples collected on November 12, 1996 and analyzed for target chlorinated solvents by USEPA SW-846 Method 8260B were associated with trip blank sample 70TB-02-(11/12/96) and equipment rinsate blank sample 70EB-02-GW. The three field duplicate samples (70REP-01-SS [70SS-10-4], 70REP-01-GW [70MW-1], and 70REP-02-GW [70MW-4]) were collected to assess field and analytical precision. Additionally, samples 70SS-9-4 and 70MW-6 (USEPA Methods 601 and 602) were designated in the field for MS/MSD analysis. A laboratory batch sample, however, was designated by Paradigm for the MS/MSD analysis for USEPA SW-846 Method 8260B.

Trip blank sample 70TB-01-(1/7/97) and equipment rinsate blank sample 70EB-01-GW were associated with the groundwater and QC samples collected on January 7 and 8, 1997 and analyzed for target chlorinated solvents by USEPA Methods 601 and 602. The field duplicate sample 70REP-01-GW (70MW-8GW) was collected to assess field and analytical precision. Additionally, sample 70MW-10GW was designated in the field for MS/MSD analysis.

7.2 LABORATORY QUALITY ASSURANCE COMPONENTS

All soil, groundwater, surface -water and associated QC samples collected were received in good condition and were analyzed for target chlorinated solvents by Paradigm (Reports G149-39, 40, 61, 62 and 80 in Appendix G) within the required 14-day holding time. Deviations from QC standards are discussed below. With the exception of the deviations reported herein, all sample QC parameters were within established control limits. The attached data are useable within the confines of this review.

7.2.1 Target Chlorinated Solvents for Geoprobe™ Soils (USEPA SW-846 Method 8021)

The required quantitation limits were detected and adjusted for sample moisture content (solid samples). Target chlorinated solvents were not detected above the quantitation limits in the associated method blank samples (VBLK092696 and VBLK100296 [solids]; VBLK093096 [water]), trip blank sample TB-01-(9/19/96) and equipment rinsate blank sample (EB-01-SS). The methylene chloride concentrations detected in the five soil samples SS-1-4.5 (26 µg/kg dw), SS-2-4 (28 µg/kg dw), SS-3-4 (28 µg/kg dw), SS-4-4 (26 µg/kg dw) and REP-01-SS (29 µg/kg dw) associated with batch 092696, however, were attributed by Paradigm to laboratory introduced contamination. According to Paradigm, similar concentrations of this target chlorinated solvent also were detected in the solid matrix samples that were analyzed with these five soil samples. Because methylene chloride was not detected in the two soil samples SS-5-4 and SS-6-4 analyzed with QC blank sample VBLK100296 in batch 100296, additional data were requested and reviewed. Methylene chloride was detected in QC blank sample VBLK100296 between the method detection limit and quantitation limit at an estimated concentration of 1.7J µg/kg. Although, the methylene chloride concentrations detected in soil samples SS-1-4.5, SS-2-4, SS-3-4, SS-4-4 and REP-01-SS exceeded the action level of 17 µg/kg, the available data suggest that this target chlorinated solvent was introduced in these five soil samples during laboratory analysis.

The trifluorotoluene surrogate recoveries and MS/MSD (sample SS-5-4) recoveries and relative percent differences (RPDs) were within established QC limits with the exception of the MS/MSD RPDs for 1,2-dibromo-3-chloropropane (35.9%); hexachlorobutadiene (75.3%); 1,2,3-trichlorobenzene (40.9%) and 1,2,4-trichlorobenzene (38.3%) which exceeded the QC limit (>30%). The Laboratory Control Sample (LCS) recoveries (LCS100296) for these compounds, however, were within QC limits. The target chlorinated solvent sample data were not qualified based on the MS/MSD RPD advisory QC sample data.

The duplicate sample criteria were met for QC soil sample REP-01-SS and associated sample SS-4-4.

7.2.2 Target Chlorinated Solvents for Geoprobe™ Groundwater (GW-1 through GW-6) and Surface-Water (SW-1) (Standard Method 6230D)

The Hall side data for geoprobe groundwater samples GW-3 and GW-5 were diluted 1:10 due to elevated compound concentrations. These dilutions resulted in a ten-fold increase in the quantitation limits for these two samples. The PID side for samples GW-3 and GW-5, however, did not require sample dilution.

Target chlorinated solvents were not detected in QC samples EB-01-GW, TB-01-(9/20/96), VBLK092696 (Hall/PID: GW-1, GW-2, GW-4, GW-6, EB-01-GW, TB-01-[9/20/96] and REP-01-GW; PID: GW-3 and GW-5) and VBLK100496 (PID/Hall: SW-1 and Hall: GW-3 and GW-5).

The surrogate recoveries and MS/MSD (sample GW-3) recoveries were within established QC limits with the exception of bromoform (62.4/62.4%); 1,2-dibromo-3-chloropropane (61.2/56.3%) and trichloroethene (MSD 23.9%) which had MS/MSD recoveries below the lower control limits. The MS/MSD RPD for trichloroethene also was outside the QC limit (>30%). The LCS (LCS100396) recoveries for these compounds, however, were within control limits. The target chlorinated solvent sample data were not qualified based on the MS/MSD recovery and RPD advisory QC sample data.

The initial calibration data for batches 092696 (Hall/PID: GW-1, GW-2, GW-4, GW-6, EB-01-GW, TB-01-[9/20/96] and REP-01-GW; PID: GW-3 and GW-5) and 100396 (PID/Hall: SW-1; Hall: GW-3 and GW-5) were within the established QC limits for relative response factor ($\overline{RRF}$ >0.05). However, the relative standard deviation (% RSD) associated with these data had 1,2-dibromo-3-chloropropane (35.13%) and dichlorofluoromethane (44.14%) for batch 092696 and 1,2-dibromo-3-chloropropane (32.37%) for batch 100396 outside the RSD control limit (>30%). Because these compounds were not detected in the associated samples (Hall Side), the sample data were not qualified based on the initial calibration data.

The continuing calibration data for batches 092696 (Hall/PID:GW-1, GW-2, GW-4, GW-6, EB-01-GW, TB-01-[9/20/96], and REP-01-GW; PID: GW-3 and GW-5) and 100396

(Hall/PID: SW-1; Hall: GW-3 and GW-5) associated with initial calibration batches 092696 and 100396, respectively, were within established QC limits for RRF (≥0.05). The percent difference (% D) associated with these data, however, had bromoform (32.1%); bromomethane (29.8%); sec-butylbenzene (25.9%); 1,2-dibromo-3-chloropropane (38.3%); hexachlorobutadiene (27.8%); dichlorodifluoromethane (69.2%); p-isopropyltoluene (-49.6%); and trichlorofluoromethane (32.7%) for batch 092696 and 2-chlorotoluene (-27.9%) and p-isopropyltoluene (-62.8%) for batch 100396 outside the %D control limit (>25%). The undetected data for these compounds in the associated samples GW-1, GW-2, GW-4, GW-6 and REP-01-GW (bromoform, bromomethane, sec-butylbenzene, 1,2-dibromo-3-chloropropane, dichlorodifluoromethane, hexachlorobutadiene, p-isopropyltoluene, and trichlorofluoromethane); GW-3 and GW-5 (sec-butylbenzene; p-isopropyltoluene and 2-chlorotoluene) and SW-1 (2-chlorotoluene and p-isopropyltoluene), therefore, were qualified as estimated and flagged "< J".

The duplicate sample criteria were met for QC groundwater sample REP-01-GW and associated sample GW-2.

7.2.3 Target Chlorinated Solvents for Hand Auger Soils (USEPA SW-846 Method 8021)

The required quantitation limits were detected and adjusted for sample moisture content (solid samples). Target chlorinated solvents were not detected in the associated method blank samples (VBLK11122 [70SS-7-4; 70SS-8-4 and 70REP-01-SS]; VBLK11124 [70SS-9-4 and 70SS-10-4/PID]; VBLK11126 [70SS-10-4/Hall]; and VBLK311279 [70EB-01-SS and 70TB-01-[11/13/96]), trip blank sample 70TB-01-(11/13/96), and equipment rinsate blank sample 70EB-01-SS.

The trifluorotoluene and 1,4-dichlorobutane surrogate recoveries and MS/MSD (sample 70SS-9-4) recoveries were within established QC limits with the exception of n-butylbenzene (38.2/38.0%); 1,2-dibromo-3-chloropropane (32.8/32.3%); naphthalene (6.3/6.6%); 1,2,3-trichlorobenzene (20.9/22.0%); 1,2,4-trichlorobenzene (15.0/12.4%); 1,2,4-trimethylbenzene (15.8/16.1%); and m/p-xylene (36.8/37.7%), which had MS/MSD recoveries below the lower QC limits. All MS/MSD RPDs and LCS recoveries (LCS112296) were within QC limits. The target

chlorinated solvent sample data were not qualified based on the MS/MSD recovery advisory QC sample data.

The duplicate sample criteria were met for QC soil sample 70REP-01-SS and associated sample 70SS-10-4 with the exception of naphthalene and toluene. The data for these two compounds in samples 70SS-10-4 and 70REP-01-SS, therefore, are qualified as estimated and flagged "J" if detected and "< J" if non-detected.

7.2.4 Target Chlorinated Solvents for Monitor Wells 70 MW-1 and 70DW-1 (USEPA SW-846 Method 8260B)

The required quantitation limits were detected with the exception of groundwater samples 70MW-1 and 70REP-02-GW which were diluted 1:50 and 1:80, respectively due to elevated chloroethane; 1,1-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene; TCE; and 1,1,1-TCA concentrations detected above the instrument calibration ranges in the non diluted runs (estimated-J qualified data). The diluted analytical run data for these six target chlorinated solvents were within calibration range and were used.

Target chlorinated solvents were not detected in QC samples 70TB-02-(11/12/96), VBLK3112296 (70DW-1), VBLK1112296 (70TB-02-[11/12/96]), and VBLK1112596 (70MW-1, 70REP-02-GW, and 70EB-02-GW). Acetone (84 µg/L), however, was detected in QC sample 70EB-02-GW. Because this compound was not detected in the associated groundwater samples, no action was required.

The surrogate recoveries and MS/MSD recoveries for the laboratory batch sample were within established QC limits with the exception bromomethane (MSD 135.6%) and 1,2-dibromomethane (MSD 138.9%), which had MSD recoveries above the upper QC limits. The MS/MSD RPDs for naphthalene (33.4%); 1,2,3-trichlorobenzene (33.6%); and 1,2,3-trichloropropane (54.8%) also exceeded the QC limit (>30%). All LCS (LCS1112596) recoveries, however, were within QC limits. The target chlorinated solvent sample data were not qualified based on the MS/MSD recovery and RPD advisory QC sample data.

The duplicate sample criteria were met for QC groundwater sample 70REP-02-GW and associated sample 70MW-1 with the exception of vinyl chloride. The data for this target chlorinated solvent in samples 70MW-1 and 70REP-02-GW, therefore, are qualified as estimated and flagged "J."

7.2.5 Target Chlorinated Solvents for Monitor Wells 70MW-2 through 70MW-6 (USEPA Methods 601 and 602)

Groundwater sample 70MW-2 was diluted 1:4 (Method 601) due to elevated compound concentrations. Target chlorinated solvents were not detected in QC samples 70TB-01-(11/12/96), 70EB-01-GW, VBLK3112596 (70MW-2, 70MW-3, 70MW-6, 70REP-01-GW, 70EB-01-GW, and 70TB-01 [11/12/96]), and VBLK3112796 (70MW-4 and 70MW-5).

The surrogate recoveries and MS/MSD (sample 70MW-6) recoveries were within established QC limits with the exception of chloromethane (MS 134.8%) and TCE (MSD 33.3%) for USEPA Method 601. The following RPDs also were outside QC limits (>30%); chloroethane (48.0%); chloromethane (34.3%); 1,1-dichloroethane (50.7%); cis-1-2-dichloroethene (NA); TCE (76.1%); and vinyl chloride (31.3%) for USEPA Method 601 and methyl-tert-butyl ether (40.1%) for USEPA Method 602. All LCS (LCS112096) recoveries, however, were within QC limits. The target chlorinated solvent sample data were not qualified based on the MS/MSD recovery and RPD advisory QC sample data.

The duplicate sample criteria were met for QC groundwater sample 70REP-01-GW and associated sample 70MW-4.

7.2.6 Target Chlorinated Solvents for Monitor Wells 70MW-7 through 70MW-11 (USEPA Methods 601 and 602)

The required quantitation limits were detected. Target chlorinated solvents were not detected in QC samples 70TB-01-(1/7/97), 70EB-01-GW, VBLK3011097 (70MW-8GW, and 70TB-01-[1/7/97]), VBLK3011497 (70MW-7GW, 70REP-01-GW, and 70EB-01-GW), and VBLK3011397 (70MW-9GW, 70MW-10GW, and 70MW-11GW).

The surrogate recoveries and MS/MSD (sample 70MW-10GW) recoveries were within established QC limits with the exception of chloromethane (MSD 53.0%) for USEPA Method 601. All MS/MSD RPDs and LCS (LCS0110976) recoveries, however, were within QC limits. The target chlorinated solvent sample data were not qualified based on the MS/MSD recovery advisory QC sample data.

The duplicate sample criteria were met for QC groundwater sample 70REP-01-GW and associated sample (70MW-8GW).

7.3 OVERALL DATA ASSESSMENT

The target chlorinated solvent data included in Paradigm reports G149-39, 40, 61, 62 and 80 in Appendix G were validated according to the criteria presented in 7.0 and are valid. Estimated (J) data qualifiers, however, were assigned to soil sample 70SS-10-4 (naphthalene and toluene) and groundwater sample 70MW-1 (vinyl chloride) compounds because the field duplicate sample criteria were not met. Data for several groundwater samples also were qualified as estimated due to continuing calibration %D outside QC limits. The methylene chloride concentrations detected in soil samples SS-1-4.5, SS-2-4, SS-3-4, SS-4-4, and REP-01-55 were attributed by Paradigm to laboratory introduced sample contamination.

8.0 SOIL GAS SURVEY/SOIL INVESTIGATION

8.1 REGIONAL GEOLOGY

Lumberton, North Carolina, is located in Robeson County, which is situated entirely within the Coastal Plain physiographic province. The shallow subsurface materials in the vicinity of the site are composed primarily of stratified sands, silts, and clays. The lithology underlying the site is mapped as the Bladen Formation of the Black Creek Group, generally consists of clay with thin beds and laminae of fine grained micaceous sand.

8.2 SITE-SPECIFIC GEOLOGY

The characteristics of the subsurface materials beneath the site were evaluated from information obtained during the installation of monitor wells 70MW-1 through 70MW-11 and 70DW-1. Based on the boring logs, the subsurface material beneath the site generally consist of interbedded sand and clay.

Two geologic cross-sections were developed using the lithologic information obtained during the monitor-well installation. The locations of the cross-sections are shown in Figure 8-1 and the cross-sections are shown in Figures 8-2 and 8-3. Cross-section A to A' extends across the site from west to east and includes the lithologic information from wells 70MW-10, 70MW-5, 70MW-1, 70DW-1, 70MW-2, and 70MW-7. Cross-section B to B' extends across the site from north to south and includes the lithologic information from wells 70MW-9, 70MW-6, 70MW-1, 70DW-1, and 70MW-3.

8.3 RESULTS OF SOIL ANALYSES

8.3.1 Field Screening

During the Geoprobe™ soil investigation and monitor-well installation, soil samples were collected, screened using the Thermo Environmental Model 580B PID, and recorded by Geraghty

& Miller personnel. During the Geoprobe™ investigation, the sample yielding the highest PID reading was retained for laboratory analysis.

The samples were also classified in the field by Geraghty & Miller personnel in general accordance with the Geraghty & Miller Quality Assurance Plan (1988). Soil classifications are presented on the monitor-well boring logs included in Appendix E.

8.3.2 Results of Soil-Vapor Survey

Table 8-1 is a summary of soil-vapor survey results. Soil-vapor concentrations were recorded at locations adjacent to the walls of the former asphalt laboratory testing laboratory building (Figure 5-1). The concentration of recorded samples ranged from 0.0 parts per million (ppm) to 4.6 ppm. The recorded concentrations are ionizable organics within the range of 0 to 10.7 electrovolts (eV) of the PID that Geraghty & Miller is interpreting as both target and non-chlorinated solvents. The recorded concentration of 4.6 ppm indicates the possible presence of target chlorinated solvents within that area.

8.3.3 Results of Geoprobe™ Soil Sampling

Soil sampling locations were placed in the vicinity of the elevated soil-vapor readings and in the vicinity of the walls of the former asphalt testing laboratory building to investigate the possible presence of soil-adsorbed target chlorinated solvents. The soil analytical results are summarized in Tables 8-2 and 8-3. Methylene chloride was detected in the soil samples collected from SS-1 (26 micrograms per kilogram [µg/kg]), SS-2 (28 µg/kg), SS-3 (28 µg/kg), and SS-4 (26 µg/kg). Other target chlorinated solvents were not detected in the soil samples collected from SS-1, SS-2, SS-3, and SS-4. Target chlorinated solvents were not detected in the soil samples collected from SS-5 and SS-6. Non-target chlorinated solvents, toluene, m/p-xylene, and o-xylene, were detected in the samples collected from SS-1-4.5, SS-4-4, and SS-6-4. Ethylbenzene, a non-target chlorinated solvent, was detected in the sample collected from SS-1-4.5 and SS-6-4. Methyl-tert-butyl-ether (MTBE) was detected in the sample collected from SS-6-4. Naphthalene,

toluene, and m/p-xylene were detected in the sample from SS-5-4. m/p-Xylene and o-xylene were detected in the sample collected from SS-3-4.

Due to the similar concentration of methylene chloride in the soil samples and to determine if the methylene chloride was due to laboratory-introduced contamination, additional soil samples (SS-7 through SS-10) were collected in the vicinity of boring locations SS-1 through SS-4. Target chlorinated solvents were not detected in any of the soil samples above the quantitation limit; therefore, the methylene chloride detected in SS-1 through SS-4 is believed to be laboratory-introduced contamination. Non-target chlorinated solvents (benzene and toluene) were detected in the soil samples collected from SS-7-4 and SS-10-4. Bromoform, a non-target chlorinated solvent, was detected in the sample collected from SS-7-4.

8.4 EXTENT OF IMPACTED SOILS

Due to the high water table at the site, soil samples were collected from 0 to 4.5 ft bls in the ten soil borings. Based on the results of the soil-vapor and soil DPT investigations, soil-sorbed target chlorinated solvents were not detected in the vicinity of the former asphalt testing laboratory.

Soil sources of target chlorinated solvents were not identified to a depth of 4.5 ft bls. If such sources were present, they would have been present in the areas and depths tested.

9.0 GROUNDWATER SAMPLING

9.1 REGIONAL/SITE HYDROGEOLOGY

Groundwater in the Central Piedmont province generally occurs within two units of a single aquifer. The first is the unconfined aquifer unit, which occurs within the overburden overlying and derived from the bedrock units. The second aquifer consists of the various bedrock units underlying the first unit. Groundwater flow in the bedrock aquifer occurs primarily within fractures and may exist under unconfined or confined conditions depending upon the local geology. Additional aquifer units exist in areas of alluvial deposits, which may or may not be physically separated from the upper unconfined aquifer unit by confining units (aquitards).

9.1.1 Shallow Groundwater Flow Direction

Water-level measurement data were collected from each of the monitor wells on January 8, 1997, and are presented in Table 9-1. The water-level elevation data were used to construct a potentiometric surface contour map (Figure 9-1). The groundwater in the uppermost water-bearing zone flows across the site in a northeasterly direction, as indicated in Figure 9-1. This flow direction generally follows surface topography, which slopes to the northeast.

9.1.2 Hydraulic Gradient

The average horizontal hydraulic gradient in the uppermost water-bearing zone is approximately 0.001 ft/ft (foot per foot) perpendicular to groundwater flow. This gradient appears to be consistent throughout the area of the site under investigation.

9.1.3 Hydraulic Properties

In-situ hydraulic conductivity test (slug-test) results from monitor wells MW-1 and MW-5 were used to obtain estimates of the hydraulic conductivity for the upper portion of the shallow aquifer (Appendix F). Analysis of the rising head slug test data provided hydraulic conductivity values of 3.83×10^{-3} centimeters per second (cm/sec) and 3.82×10^{-3} cm/sec, respectively, for

monitor wells MW-1 and MW-5. An average hydraulic conductivity value of 3.83 x 10^{-3} cm/sec (or 10.86 ft/day) was calculated from these values.

9.2 GROUNDWATER INVESTIGATION - TEMPORARY PIEZOMETERS/SURFACE WATER

On September 20, 1996, temporary piezometers GW-1 through GW-6 were gauged for depth to water using an electric water meter. After gauging, the temporary piezometers were purged and sampled using 1/4-inch polyethylene bailers. On September 20, 1996, a surface-water sample was collected from the Lumber River. Groundwater and surface-water samples were collected from each well and the Lumber River and placed in laboratory-provided containers. The containers were maintained on ice in coolers and shipped via overnight courier to Paradigm for analysis of target chlorinated solvents by SM 6230D.

cis-1,2-Dichloroethene and vinyl chloride were detected in the groundwater sample collected from GW-5 above the North Carolina Administrative Code, Title 15A Subchapter 2L (15A NCAC 2L) Groundwater Quality Standards. TCE was detected in the groundwater samples collected from GW-3, GW-4, and GW-5 above the 15A NCAC 2L Groundwater Quality Standard. cis-1,2-Dichloroethene was detected below the 15A NCAC 2L Standards in the groundwater samples collected from GW-2, GW-3, and GW-4. TCE was detected below the 15A NCAC 2L Standards in the groundwater samples collected from GW-2. Chloroethane; 1,1-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene; and 1,1,1-TCA were detected below the 15A NCAC 2L Standards in the groundwater sample collected from GW-6. Other target chlorinated solvents were not detected in the samples collected from GW-2 through GW-6. Target chlorinated solvents were not detected in the groundwater samples obtained from GW-1. Non-target chlorinated solvents (MTBE and naphthalene) were detected in the groundwater sample collected from GW-2. MTBE was also detected in the samples collected from GW-3, GW-4, and GW-5. Benzene, a non-target chlorinated solvent, was detected in the samples collected from GW-4 and GW-5. Target chlorinated solvents were not detected in the surface-water sample (SW-1) collected from the Lumber River. The analytical results from the

piezometer samples and the surface-water samples are summarized in Table 9-2, and the laboratory analytical reports are presented in Appendix G.

9.3 GROUNDWATER INVESTIGATION - MONITOR WELLS

On November 11 through 13, 1996, site monitor wells (70MW-1 through 70MW-6 and 70DW-1) were gauged for depth to water using an electronic water meter. On January 8, 1997, the site monitor wells (70MW-7 through 70MW-11) were gauged for depth to water using an electronic water meter. After gauging, the monitor wells were purged and sampled using polyethylene tubing and a Grundfos® Redi-flo2 submersible pump. Purging procedures included the removal of at least three well volumes of water from each well. Groundwater samples were collected from each well and placed in laboratory-provided containers. The containers were maintained on ice in coolers and shipped via overnight courier to Paradigm for analysis. The groundwater samples collected from wells 70MW-1 and 70DW-1 were analyzed for target chlorinated solvents by USEPA SW-846 Method 8260B. Groundwater samples collected from wells 70MW-2 through 70MW-11 were analyzed for target chlorinated solvents by USEPA Methods 601 and 602. Proper chain-of-custody documentation was maintained during sample shipment. All water generated during purging was containerized and temporarily stored on-site.

1,1-Dichloroethene, cis-1,1-dichloroethene, 1,1,1-TCA, TCE, and vinyl chloride were detected above the 15A NCAC 2L Standards in the groundwater sample collected from monitor well MW-1. 1,1-Dichloroethene was detected above the 15A NCAC 2L Standard in the groundwater sample collected from monitor wells 70MW-2 and 70MW-6. Vinyl chloride was detected above the 15A NCAC 2L Standard in the groundwater sample collected from 70MW-5 and 70MW-6. cis-1,1-Dichloroethene and TCE were detected above the 15A NCAC 2L Standards in the groundwater sample collected from 70MW-6. Chloroethane was detected below the 15A NCAC 2L Standard in the groundwater samples collected from 70MW-1, 70MW-2, and 70MW-6. TCE was detected above the 15A NCAC 2L Standard in the groundwater sample collected from 70MW-9. cis-1,1-Dichloroethene and 1,1,1-TCE were detected below the 15A NCAC 2L Standard in the sample collected from monitor well 70MW-2. 1,1,1-TCA was detected below the 15A NCAC 2L Standard in the sample collected from monitor well 70MW-6.

Target chlorinated solvents were not detected in the samples collected from monitor wells 70MW-3, 70MW-4, 70MW-7, 70MW-8, 70MW-10, 70MW-11, and 70DW-1. Non-target chlorinated solvent MTBE was detected in the samples collected from 70MW-1 and 70MW-2. The analytical results from the groundwater samples obtained from the site monitor wells are summarized in Tables 9-3 and 9-4 and included in Appendix G.

9.4 EXTENT OF GROUNDWATER IMPACT

Results of the groundwater investigation indicate that groundwater in the unconfined aquifer at this site has been impacted by dissolved target chlorinated solvents above the 15A NCAC 2L Groundwater Quality Standards. However, groundwater samples collected from upgradient and crossgradient monitor wells (70MW-4, 70MW-7, 70MW-8, 70MW-10, and 70MW-11) and the deep well (70DW-1) did not detect any target chlorinated solvents above the 15A NCAC 2L Groundwater Quality Standards; therefore, the vertical and lateral extents of dissolved-phase target chlorinated solvents have been adequately delineated to the south, west, and east. A low concentration of TCE (16 μg/l) was detected in downgradient well MW-9, located north of wells 70MW-1, 70MW-2 and 70MW-6, slightly above the NCAC 2L Groundwater Quality Standard. Delineation of the plume to the north of 70MW-9 was not pursued due to the presence of on site surface water ponds and the adjacent swampy area that was not conducive to drilling.

10.0 CONCLUSIONS AND RECOMMENDATIONS

10.1 FINDINGS

These findings are drawn from the soil and groundwater investigations:

(1) Previous site activities included the testing of asphalt, possibly using carbon tetrachloride, TCE, or 1,1,1-TCA.

(2) Land surface in the site area slopes to the northeast.

(3) Water is supplied to the facility by the Town of Lumberton.

(4) Soil-vapor sampling points were strategically placed around the former asphalt testing building to determine the locations of elevated soil-vapor concentrations to aid in the placement of the soil sampling locations. Soil-vapor concentrations ranging from 0.0 ppm to 4.6 ppm were recorded at locations in the vicinity of the walls of the former asphalt testing laboratory building. The recorded concentrations are ionizable organics within the range of 0 to 10.7 eV of the PID that Geraghty & Miller is interpreting as both target and non-target chlorinated solvents. The recorded concentration of 4.6 ppm indicates the possible presence of target chlorinated solvents within that area.

(5) Generally, Geoprobe™ soil samples were obtained from areas of elevated soil-vapor readings to determine the presence or absence of soil-adsorbed target chlorinated solvents. Methylene chloride was detected in the soil samples collected from SS-1 (26 µg/kg), SS-2 (28 µg/kg), SS-3 (28 µg/kg), and SS-4 (26 µg/kg). Other target chlorinated solvents were not detected in the soil samples collected from SS-1, SS-2, SS-3, and SS-4. Target chlorinated solvents were not detected in the soil samples collected from SS-5 and SS-6.

Due to the similar concentration of methylene chloride in the soil samples and to determine if the methylene chloride was due to laboratory-introduced

contamination, additional soil samples (SS-7 through SS-10) were collected in the vicinity of boring locations SS-1 through SS-4. Target chlorinated solvents were not detected in any of the soil samples above the quantitation limit; therefore, the methylene chloride detected in SS-1 through SS-4 is believed to be laboratory-introduced contamination.

(6) The results from the groundwater investigation indicate that shallow groundwater is present beneath the site at depth ranging from 3 to 8 ft bls. The overall direction of groundwater flow is to the west at an estimated hydraulic gradient of 0.001 ft/ft.

(7) cis-1,1-Dichloroethene was detected above the 15A NCAC 2L Standard in the groundwater samples collected from monitor wells 70MW-1 and 70MW-6. 1,1-Dichloroethene was detected above the 15A NCAC 2L Standard in the groundwater samples collected from monitor wells 70MW-1, 70MW-2, and 70MW-6. 1,1,1-TCA was detected above the 15A NCAC 2L Standard in the groundwater samples collected from monitor well 70MW-1. TCE was detected above the 15A NCAC 2L Standard in the groundwater samples collected from monitor wells 70MW-1, 70MW-6, and 70MW-9. Vinyl chloride was detected above the 15A NCAC 2L Standard in the groundwater samples collected from monitor wells 70MW-1, 70MW-5, and 70MW-6. Target chlorinated solvents were not detected in the samples collected from wells 70MW-3, 70MW-4, 70MW-7, 70MW-8, 70MW-10, 70MW-11, and 70DW-1.

10.2 CONCLUSIONS

The following conclusions are drawn from the soil and groundwater investigations:

(1) 1,1-Dichloroethene; cis-1,2-dichloroethene; 1,1,1-TCA; TCE; and vinyl chloride were detected in the groundwater sample obtained from monitor well 70MW-1 in exceedance of the 15A NCAC 2L Standard. 1,1-Dichloroethene, cis-1,2-dichloroethene, trichloroethene, and vinyl chloride were detected in the groundwater sample obtained from monitor well 70MW-6 in exceedance of the 15A NCAC 2L

Standard. 1,1-Dichloroethene was detected in the groundwater sample collected from 70MW-2 in exceedance of the 15A NCAC 2L Standard. Vinyl chloride was detected in the groundwater sample collected from 70MW-5, and TCE was detected in the groundwater sample collected from 70MW-9 in excess of the 15A NCAC 2L Standard.

(2) Target chlorinated solvents were not detected in the groundwater samples collected from wells 70MW-3 through 70MW-5, 70MW-7, 70MW-8, 70MW-10, 70MW-11, and 70DW-1.

(3) Although the concentration of target chlorinated solvents detected in the samples collected from 70MW-1, 70MW-6, and 70MW-9 were above the 15A NCAC 2L Groundwater Quality Standard, the samples collected from the crossgradient and upgradient wells did not detect any target chlorinated solvents above laboratory detection limits. Also, target chlorinated solvents were not detected in the deep well (70DW-1) located near 70MW-1. Therefore, the extent of the dissolved target chlorinated solvents plume had been adequately defined vertically and to the east, west, and south of 70MW-1.

10.3 RECOMMENDATIONS

Based on review of the data presented in this report, target chlorinated solvents have been adequately defined vertically and to the east, west, and south of 70MW-1; however, the horizontal extent of groundwater contamination north of 70MW-1 has not been adequately defined. A low concentration of TCE (16 µg/L) was detected in downgradient well MW-9, located north of wells 70MW-1, 70MW-2 and 70MW-6, above the NCAC 2L Groundwater Quality Standard. Delineation of the plume to the north of 70MW-9 was not possible due the presence of on site surface water ponds and the adjacent swampy area that was not conducive to drilling.

Further investigation during the development of the Corrective Action Plan at this site is recommended to determine the extent of the contamination to the north of 70MW-9 in excess of

the 15A NCAC 2L standards. Since it is uncertain when the implementation of corrective action will occur, prior to the implementation of a CAP, further evaluation may be necessary to determine the most feasible option available at the future time of CAP preparation.

11.0 REFERENCES

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North Carolina Department of Environment, Health, and Natural Resources (NCDEHNR), 1993. "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater." Division of Environmental Management.

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U.S. Environmental Protection Agency (USEPA), 1994. USEPA Contract Laboratory Program - National Functional Guidelines for Organic Data Review. Office of Solid Waste and Emergency Response. EPA/540/R/94/090. December.

TABLES

TABLES

Table 2-1. Summary of Adjacent Property Owners, Site No. 70, Crowell Construction Inc., Lumberton, North Carolina.

Property ID Number (See Fig. 2-3)	Registered Property Owner	Property Owner Address	Phone No. of Registered Property Owner	Current Use
1	Crowell Constructors	PO Box 53645 Lumberton, NC 28305	739-2330	Industrial
2	Crowell Constructors	PO Box 53645 Lumberton, NC 28305	739-2330	Industrial
3	Heirs of Harvey Leonard	Hwy 74 Lumberton, NC 28358	739-2826	Undeveloped
4	Kenneth R. Prevatt	Rt 2, Box 450 Fairmont, NC 28340	Unlisted	Undeveloped
5	Dara Frances Lowery	Rt. 4 Lumberton, NC 28358	738-7942	Undeveloped
6	Woodrow & Opal Smith Scott	Rt. 6, Box 407 Lumberton, NC 28358	738-5515	Residential
7	Woodrow Scott, Jr.	Rt. 4, Box 92 Lumberton, NC 28358	Unlisted	Residential
8	JC & Carol Locklear	2921 Bragg St. Lumberton, NC 28358	738-2519	Residential
9	Billy Scott	Rt. 6, Box 1036 Lumberton, NC 28358	739-7848	Residential
10	74 Truck Stop	Rt. 6, Box 409 Lumberton, NC 28358	Unlisted	Undeveloped
11	Annie H. Floyd	7604 Jackson School Road Browns Summit, NC 27214	Unlisted	Residential
12	Leroy Hall	802 Cambridge St. Greensboro, NC 27406	Unlisted	Undeveloped
13	Leroy Hall	802 Cambridge St. Greensboro, NC 27406	Unlisted	Undeveloped
14	Bob & Carol Corp.	PO Box 938 Pembroke, NC 28372	Unlisted	Residential
15	Nora O. Demery	Rt. 4, Box 100 Lumberton, NC 28358	Unlisted	Residential
16	John & Elise Lennon McMillian	1818 Booker St. Lumberton, NC 28358	739-3628	Residential
17	P & J Sampson c/o Celvin Sampson	Rt. 4, Box 82 Lumberton, NC 28358	739-1687	Residential

Source: Town of Lumberton Tax Department.
Area Code - 910

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Table 5-1. Monitor-Well Construction Summary Table, Site No. 70, Crowell Construction Inc., Lumberton, North Carolina.

Well Number	Date of Installation	Measuring Point Elevation (ft)	Total Drilled Depth (ft bls)	Surface Casing Depth (ft bls)	Elevation of Screened Zone (ft bls)
70MW-1	11/6/96	1002.09	15	5	15-5
70DW-1	11/6-11/8/96	1002.09	54	32/42	52-42
70MW-2	11/6/96	1001.33	15	5	15-5
70MW-3	11/7/96	1001.67	15	5	15-5
70MW-4	11/7/96	1001.16	15	5	15-5
70MW-5	11/5-11/6/96	1001.55	15	5	15-5
70MW-6	11/7/96	1002.09	15	5	15-5
70MW-7	12/19/96	1000.69	20	10	20-10
70MW-8	12/19/96	998.00	15	5	15-5
70MW-9	12/19/96	1000.00	15	5	15-5
70MW-10	12/19/96	999.16	15	5	15-5
70MW-11	12/19/96	1000.02	15	5	15-5

ft bls Feet below land surface.

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Table 8-1. Summary of Soil-Vapor Survey Data, Site No. 70, Crowell Construction Inc., Sampled on September 19, 1996, Lumberton, North Carolina.

Sample I.D.	Sample Depth (ft bls)	Soil Vapor Concentration (ppm)
SV-1	3.0	0.0
SV-2	3.0	2.3
SV-3	2.5	4.6
SV-4	3.0	0.0
SV-5	2.5	1.2
SV-6	2.5	1.2
SV-7	2.0	0.0
SV-8	3.0	0.0
SV-9	2.0	0.0
SV-10	2.0	0.0

Samples were collected using the Microseeps™ soil-gas sampling system and screened using a Thermo Environmental Instruments Model 580B portable PID.

ft bls Feet below land surface.
ppm Parts per million.
PID Photoionization detector.

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Table 8-2. Summary of Soil Analytical Data, Site No. 70, Crowell Construction, Inc., Sampled on September 19, 1996, Lumberton, North Carolina.

Constituents	Calculated Soil Cleanup Level	Sample ID:	SS-1-4.5	SS-2-4	SS-3-4	SS-4-4	REP-01-SS*	SS-5-4	SS-6-4
		Lab ID:	15143	15144	15145	15146	15149	15147	15148
		Date Sampled:	9/19/96	9/19/96	9/19/96	9/19/96	9/19/96	9/19/96	9/19/96
Volatile Organics (USEPA Method 8021) µg/kg dw									
Benzene	-		< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	1.1	1.5
cis-1,2-Dichloroethene	**1,974**		**1.5**	**< 1.1**	**< 1.1**	**1.5**	**< 1.1**	**< 1.1**	**64**
trans-1,2-Dichloroethene	**1,430**		**< 1.1**	**< 1.1**	**< 1.1**	**< 1.1**	**< 1.1**	**< 1.1**	**1.6**
Diisopropylether (DIPE)	-		< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	3.6
Ethylbenzene	-		1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	1.7
Methylene chloride	**17.6**		**26****	**28****	**28****	**26****	**29****	**< 5.3**	**< 5.7**
Methyl-tert-butyl ether (MTBE)	-		< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	3.7
Naphthalene	-		< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	1.2	< 1.1
Toluene	-		1.4	<1.1	<1.1	1.8	1.2	1.3	2.9
m/p-Xylene	-		11	< 2.2	8.2	5.4	8.3	2.2	20
o-Xylene	-		3.8	< 2.2	3.3	2.5	3.3	< 2.1	4.8

µg/kg dw Micrograms per kilogram on a dry weight basis.

< Constituent was not detected above the quantitation limit.

* Field duplicate sample of sample collected at location SS-4-4.

** Constituent concentrations detected is likely to be due to laboraotry introduced contamination

[ ] Constituent concentration exceeds the calculated soil cleanup level.

Table 8-3. Summary of Soil Analytical Data, Site No. 70, Crowell Construction, Inc., Sampled on November 13, 1996, Lumberton, North Carolina.

Constituents	Calculated Soil Cleanup Level	Sample ID: / Lab ID: / Date Sampled:	70SS-10-4 / 17299 / 11/13/96	70REP-01-SS* / 17305 / 11/13/96	70SS-7-4 / 17300 / 11/13/96	70SS-8-4 / 17301 / 11/13/96	70SS-9-4 / 17302 / 11/13/96
Volatile Organics (USEPA 8021) µg/kg dw							
Benzene	-		**2.1**	**<1.1**	**1.2**	**<1.0**	**<1.1**
Bromoform	-		**<2.2**	**<2.2**	**2.3**	**<2.1**	**<2.1**
Naphthalene	-		<1.1J	2.4J	<1.1	<1.0	<1.1
Toluene	-		4.5J	<1.1J	3.8	<1.0	<1.1

µg/kg dw Micrograms per kilogram on a dry weight basis.
* Field duplicate of soil sample collected at location 70SS-6-4.
< Constituent was not detected above the quantitation limit.
J Constituent concentration is qualified as estimated because the field duplicate sample criteria were not met.

Table 9-1. Summary of Groundwater Elevation Data, Site No. 70, Crowell Construction Inc., Measured on January 8, 1997, Lumberton, North Carolina.

Well Number	North Top of Casing Elevation*	Depth to Water (feet)	Groundwater Elevation*
70MW-1	1002.45	7.31	995.14
70DW-1	1002.09	7.64	994.45
70MW-2	1001.33	6.37	994.96
70MW-3	1001.67	6.54	995.13
70MW-4	1001.16	5.95	995.21
70MW-5	1001.55	6.35	995.20
70MW-6	1002.09	7.03	995.06
70MW-7	1000.69	5.84	994.85
70MW-8	998.00	3.34	994.66
70MW-9	1000.00	5.21	994.79
70MW-10	999.16	3.96	995.20
70MW-11	1000.02	4.56	995.46

* Elevations referenced to an arbitrary datum of 1,000 feet.

Table 9-2. Summary of Groundwater and Surface Water (SW-1) Analytical Data, Site No. 70, Crowell Construction, Inc, Sampled on September 20, 1996, Lumberton, North Carolina.

Constituents	NCAC 2L Groundwate Standards	Sample ID: Lab ID: Date Sampled:	GW-1 15131 9/20/96	GW-2 15132 9/20/96	REP-01-GW* 15140 9/20/96	GW-3 15133 9/20/96	GW-4 15134 9/20/96	GW-5 15135 9/20/96	GW-6 15136 35328	SW-1 15137 9/20/96
Volatile Organics (SM6230D) µg/L										
Benzene	1		< 0.5	< 0.5	< 0.5	< 0.5	0.6	0.6	< 0.5	< 0.5
Chloroethane	2800		< 0.5	< 0.5	< 0.5	< 5	< 0.5	< 5	3	< 0.5
1,1-Dichloroethane	700		< 0.5	< 0.5	< 0.5	< 5	< 0.5	< 5	2	< 0.5
1,1-Dichloroethene	7		< 0.5	< 0.5	< 0.5	< 5	< 0.5	< 5	1	< 0.5
cis-1,2-Dichloroethene	70		< 0.5	2	2	18	22	440	0.7	< 0.5
trans-1,2-Dichloroethene	70		< 0.5	< 0.5	< 0.5	< 5	0.6	< 5	< 0.5	< 0.5
Methyl-tert-butyl ether (MTBE)	200		< 0.5	0.8	0.8	0.7	2	5	< 0.5	< 0.5
Naphthalene	21		< 0.5	0.6	0.8	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5
1,1,1-Trichloroethane	200		< 0.5	< 0.5	< 0.5	< 5	< 0.5	< 5	3	< 0.5
Trichloroethene	2.8		< 0.5	2	2	99	24	150	< 0.5	< 0.5
Vinyl chloride	0.015		< 0.5	< 0.5	< 0.5	< 5	6	< 5	< 0.5	< 0.5

µg/L Micrograms per liter.

NCAC 2L North Carolina Administrative Code, Title 15A, Chapter 2L, Groundwater Quality Standards, February 8, 1996.

NS Numerical 15A NCAC 2L Standard has not been established; therefore, detectable concentrations of these substances in groundwater are considered to be in excess of North Carolina Water Quality Standards.

< Constituent was not detected above the quantitation limit.

* Field duplicate sample of sample collected at location GW-2.

[ ] Constituent concentration exceeds the 15A NCAC 2L Standard.

Table 9-3. Summary of Groundwater Analytical Data, Site No. 70, Crowell Construction, Inc., Sampled on November 12 and 13, 1996, Lumberton, North Carolina.

Constituents	NCAC 2L Groundwater Standard	Sample ID: / Lab ID: / Date Sampled:	70DW-1 17316 11/12/96	70MW-1 17308 11/12/96	70REP-02-GW* 17318 11/12/96	70MW-2 17309 11/12/96	70MW-3 17310 11/12/96	70MW-4 17311 11/13/96	70REP-01-GW** 17317 11/12-13/96	70MW-5 17312 11/13/96	70MW-6 17313 11/12/96
Volatile Organics (USEPA 8260B) µg/L											
Chloroethane	2,800**		<1	48DJ[1]	38DJ[1]	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	620		<1	<1	1	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75		<1	6	7	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	700		<1	300D	250D	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	7		<1	83D	70DJ[1]	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	70		<1	130D	100D	NA	NA	NA	NA	NA	NA
Methyl-tert-butyl ether (MTBE)	200		<1	1	2	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	200		<1	1,200D	990D	NA	NA	NA	NA	NA	NA
Trichloroethene	2.8		<1	200D	210D	NA	NA	NA	NA	NA	NA
Vinyl chloride	0.015		<1	7J[2]	10J[2]	NA	NA	NA	NA	NA	NA
Volatile Organics (USEPA Method 601) µg/L											
Chloroethane	2,800		NA	NA	NA	13	<1	<1	<1	<1	3
1,1-Dichloroethane	700		NA	NA	NA	84	<1	<1	<1	<1	28
1,1-Dichloroethene	7		NA	NA	NA	17	<1	<1	<1	<1	7
cis-1,2-Dichloroethene	70		NA	NA	NA	28	<1	<1	<1	2	92
1,1,1-Trichloroethane	200		NA	NA	NA	57	<1	<1	<1	<1	5
Vinyl chloride	0.015		NA	NA	NA	<4	<1	<1	<1	3	11
trans-1,2-Dichloroethene	70		NA	NA	NA	<4	<1	<1	<1	<1	1
Trichloroethene	2.8		NA	NA	NA	<4	<1	<1	<1	<1	31
Volatile Organics (USEPA Method 602) µg/L											
Methyl-tert-butyl ether (MTBE)	200		NA	NA	NA	4	<2	<2	<2	<2	<2

µg/L	Micrograms per liter.
NCAC 2L	North Carolina Administrative Code, Title 15A, Chapter 2L, Groundwater Quality Standards, February 8, 1994.
[ ]	Constituent concentration exceeds the 15A NCAC 2L Standard.
*	Field duplicate sample of groundwater sample 70MW-1.
**	Field duplicate sample of groundwater sample 70MW-4.
***	Proposed NCAC 2L.0202 Groundwater Quality Standard, January 16, 1996.
<	Constituent was not detected above the quantitation limit.
J[1]	Constituent concentration was detected between the method detection limit and quantitation limit and is qualified as estimated.
J[2]	Constituent concentration is qualified as estimated because the field duplicate sample criteria were not met.
D	Constituent concentration detected was quantitated using a second dilution.
NA	Constituent was not analyzed.

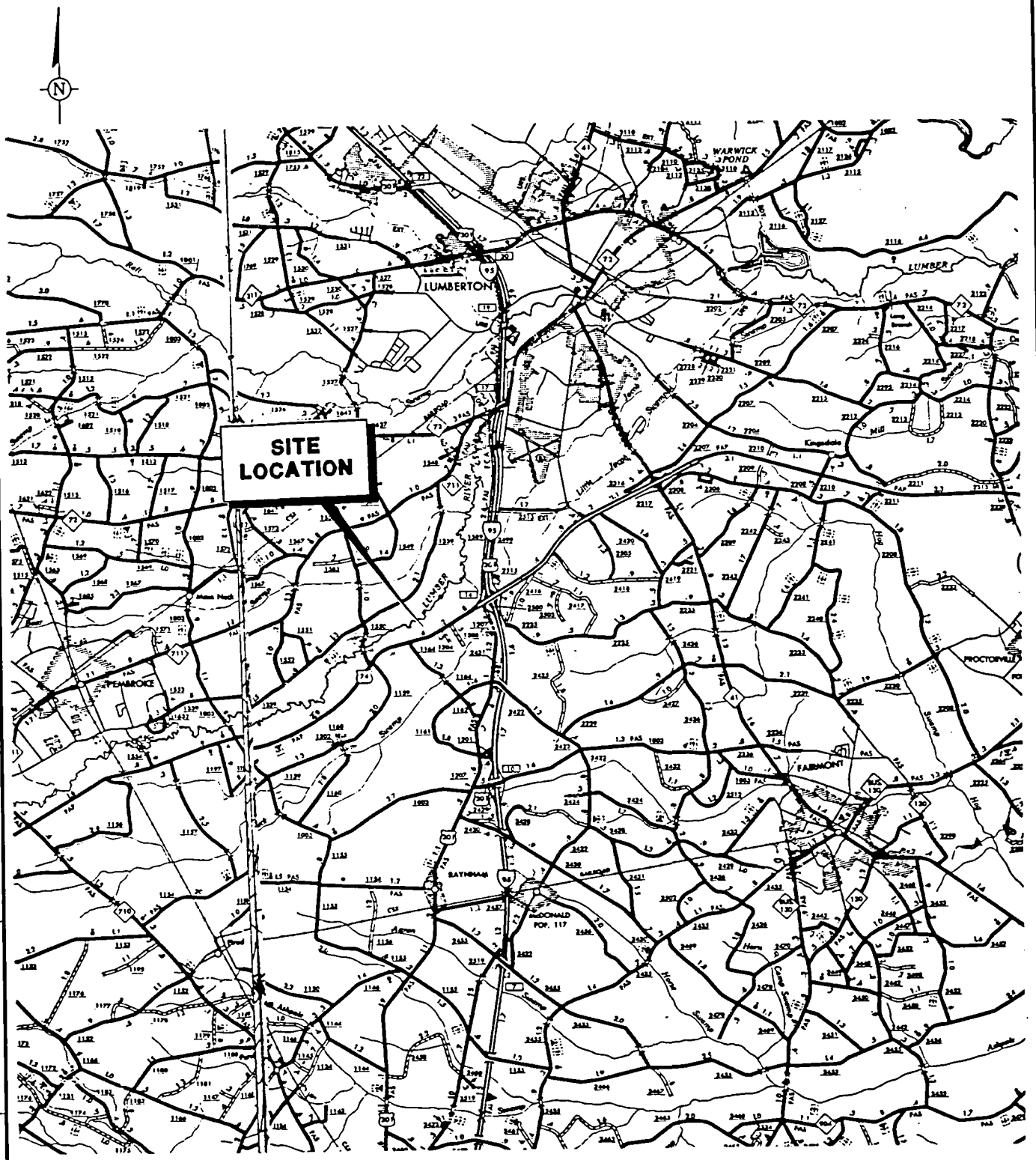
Table 9-4. Summary of Groundwater Analytical Data, Site No. 70, Crowell Construction, Inc., Sampled on January 7 and 8, 1997, Lumberton, North Carolina.

Constituents	NCAC 2L Groundwater Standard	Sample ID: / Lab ID: / Date Sampled:	70MW-7GW 19334 1/8/97	70MW-8GW 19335 1/7/97	70MW-9GW 19336 1/7/97	70MW-10GW 19337 1/8/97	70MW-11GW 19338 1/8/97	70REP-01-GW* 19341 1/7/97
Volatile Organics (USEPA Method 601) µg/L								
1,1-Dichloroethane	**700**		<1	<1	1	<1	<1	<1
cis-1,2-Dichloroethene	**70**		<1	<1	4	<1	<1	<1
1,1,1-Trichloroethane	**200**		<1	<1	1	<1	<1	<1
Trichloroethene	**2.8**		<1	<1	16	<1	<1	<1
Volatile Organics (USEPA Method 602) µg/L			ND	ND	ND	ND	ND	ND

µg/L Micrograms per liter.
NCAC 2L North Carolina Administrative Code, Title 15A, Chapter 2L, Groundwater Quality Standards, February 8, 1994.
Constituent concentration exceeds the 15A NCAC 2L Standard.
* Field duplicate sample of groundwater sample 70MW-8GW .
< Constituent was not detected above the quantitation limit.
ND VOCs were not detected above the quantitation limit.

FIGURES

FIGURES



DRAFTER: A. VanKREN | APPROVED: F. RASH | CHECKED: | DRAWING: CTYROAD | FILE NO.: SYM | PRJCT NO.: NC0360.212 | DWG DATE: 4FEB97

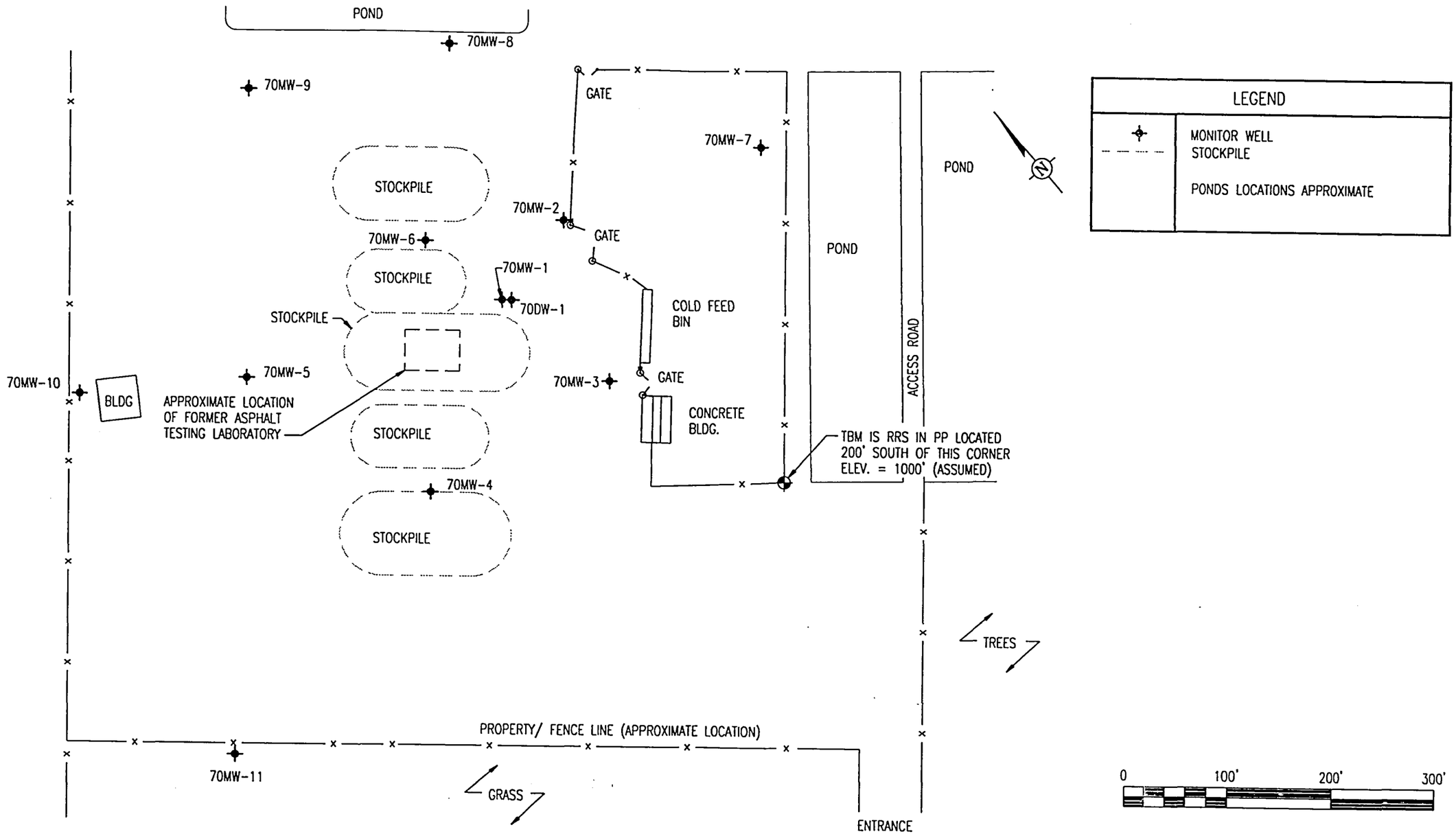
GERAGHTY & MILLER, INC.
Environmental Services

SCALE 1 INCH = 2.0 MILES

COUNTY ROAD MAP

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
SITE #70
LUMBERTON, NORTH CAROLINA

FIGURE
2-1



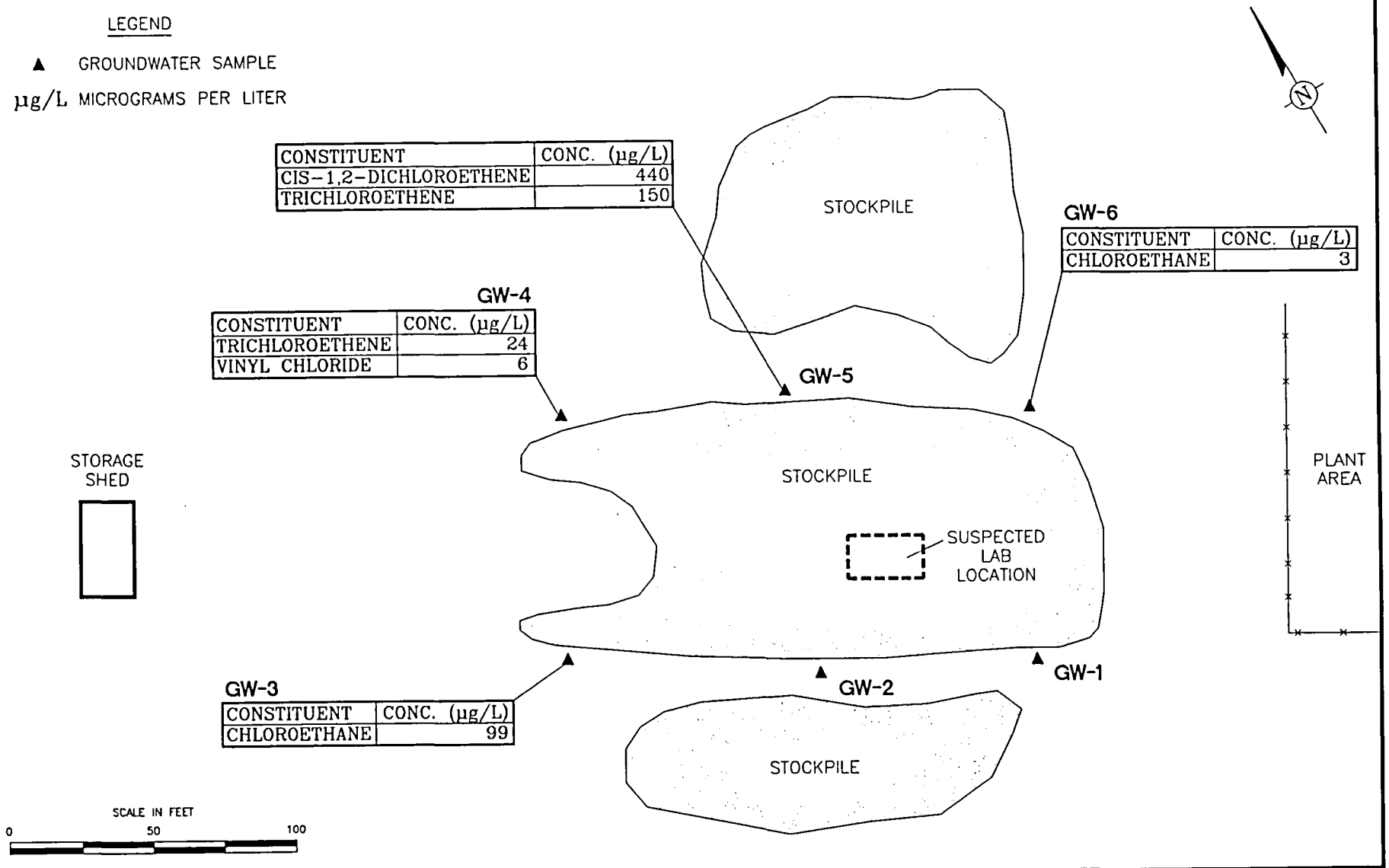
GERAGHTY & MILLER, INC.
Environmental Services

SITE MAP
NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
2-2

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: K. TRIMBERGER | DRAWING: 70-SITE | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/16/97

DWG DATE: 21OCT96	PRJCT NO.: NC0360211	FILE NO.: NCDOT	DRAWING: SITE70A	CHECKED: S. PATRICK	APPROVED: F. RASH	DRAFTER: A. WARREN



CONSTITUENT	CONC. (µg/L)
CIS-1,2-DICHLOROETHENE	440
TRICHLOROETHENE	150

GW-4

CONSTITUENT	CONC. (µg/L)
TRICHLOROETHENE	24
VINYL CHLORIDE	6

GW-6

CONSTITUENT	CONC. (µg/L)
CHLOROETHANE	3

GW-3

CONSTITUENT	CONC. (µg/L)
CHLOROETHANE	99

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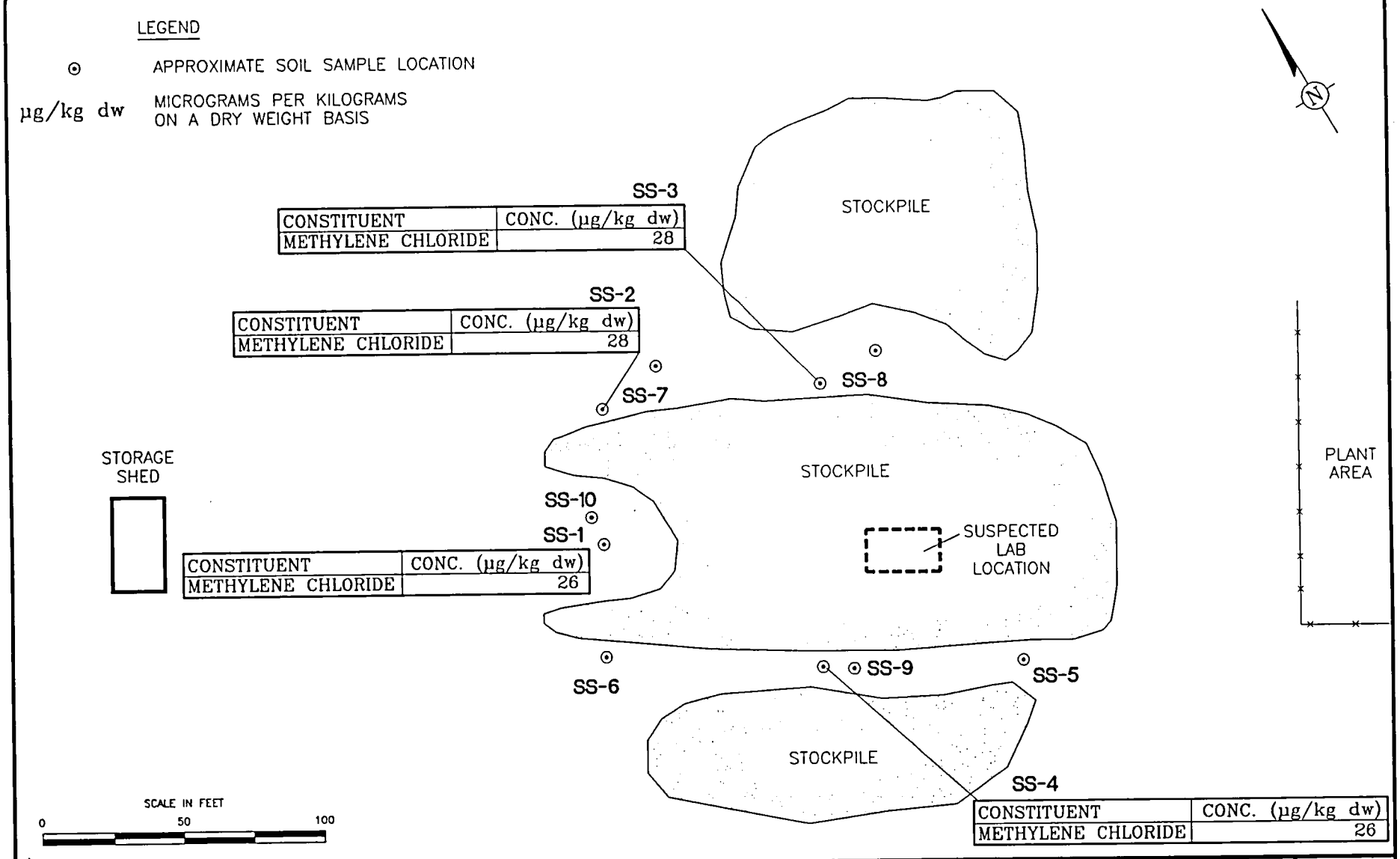
Environmental Services

GROUNDWATER SAMPLE LOCATION

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
SITE #70
LUMBERTON, NORTH CAROLINA

FIGURE
5-3

DWG DATE: 21OCT96	PRJCT NO.: NC0360211	FILE NO.: NCDOT	DRAWING: SITE70A	CHECKED: S. PATRICK	APPROVED: F. RASH	DRAFTER: A. WARREN



SS-3	
CONSTITUENT	CONC. (µg/kg dw)
METHYLENE CHLORIDE	28

SS-2	
CONSTITUENT	CONC. (µg/kg dw)
METHYLENE CHLORIDE	28

SS-1	
CONSTITUENT	CONC. (µg/kg dw)
METHYLENE CHLORIDE	26

SS-4	
CONSTITUENT	CONC. (µg/kg dw)
METHYLENE CHLORIDE	26

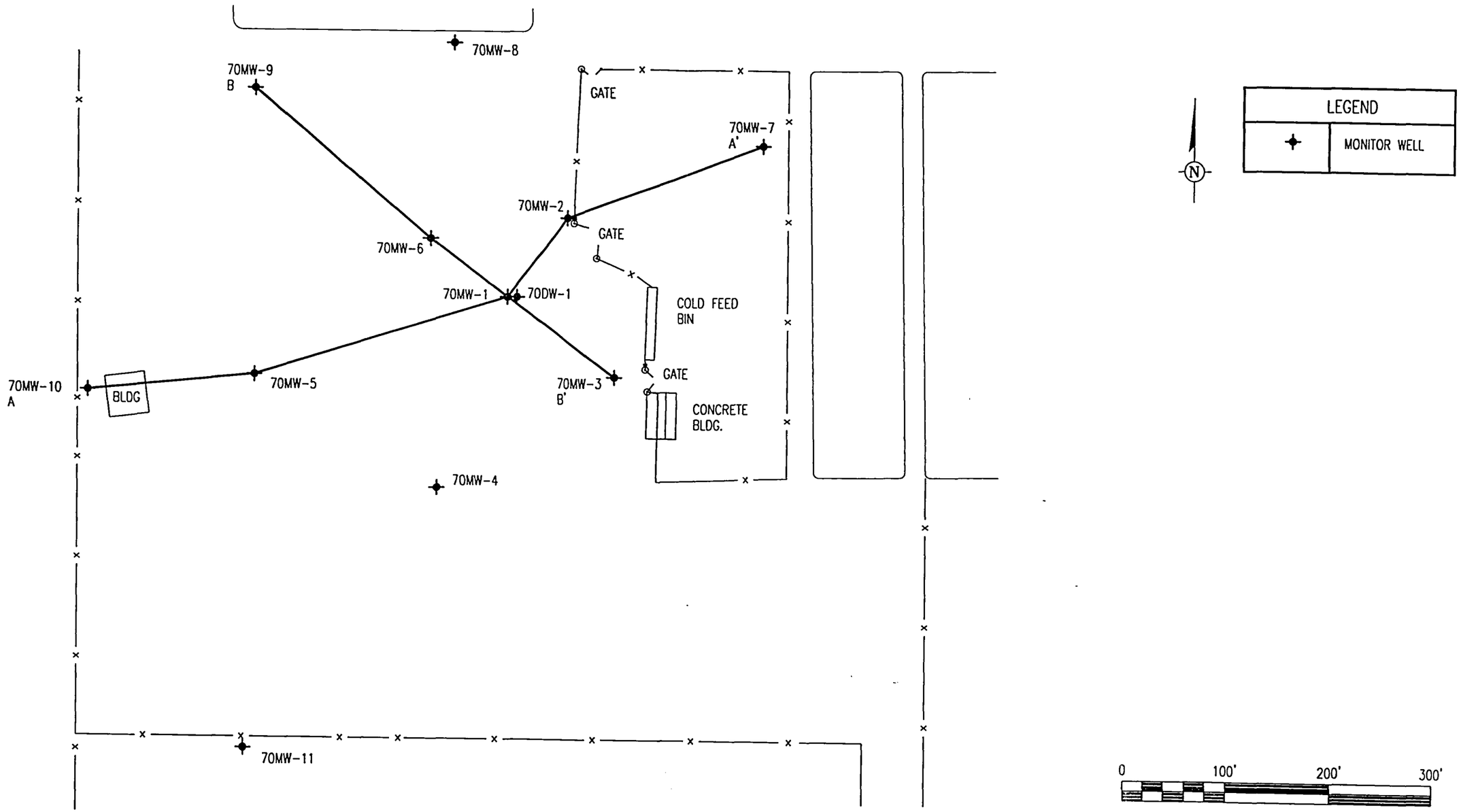
GERAGHTY & MILLER, INC.
Environmental Services

SOIL SAMPLE LOCATION

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
SITE #70
LUMBERTON, NORTH CAROLINA

FIGURE
5-2

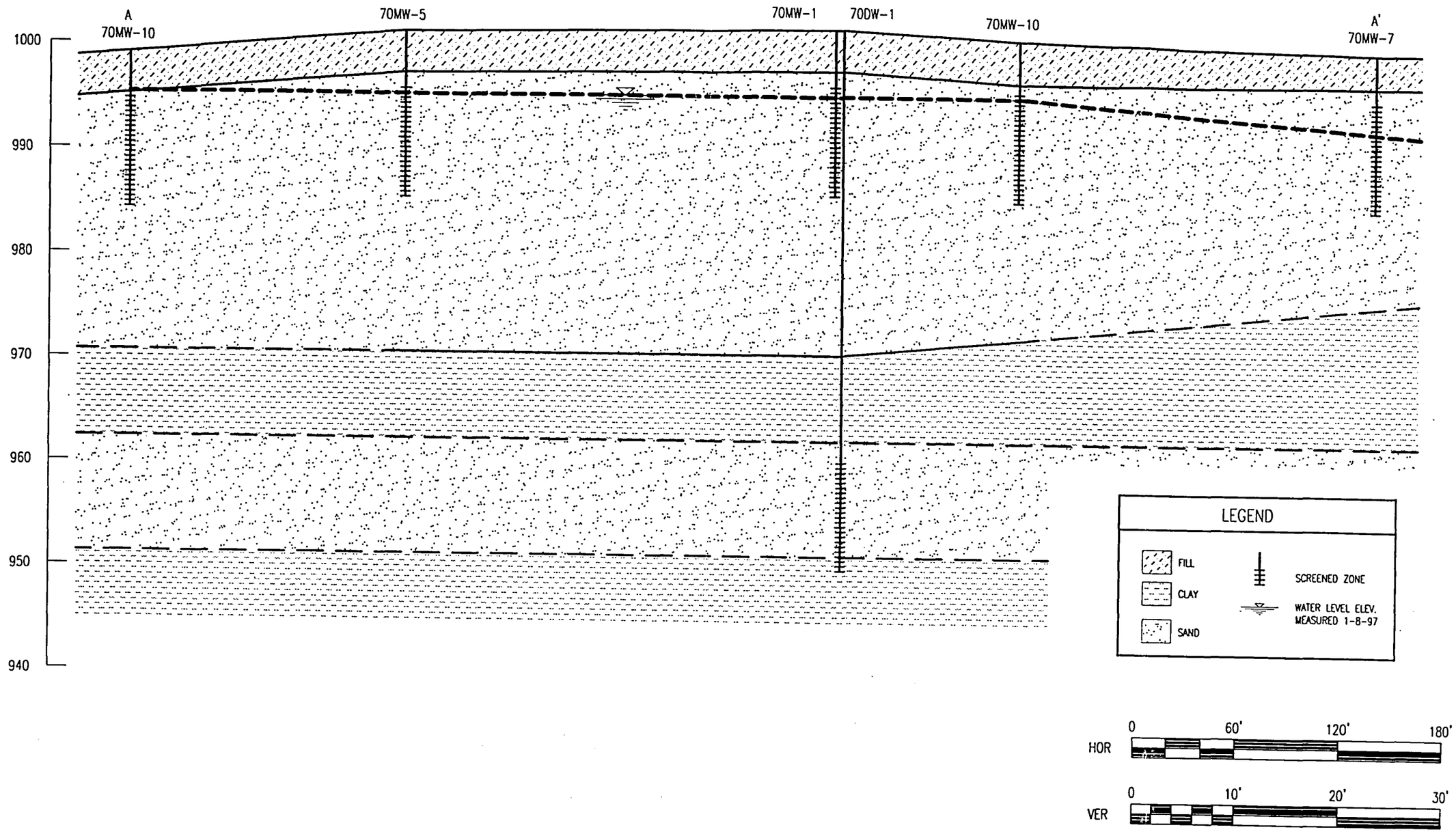
DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-CROSS | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 2/5/97



GERAGHTY & MILLER, INC.
Environmental Services

CROSS- SECTION LOCATION MAP
NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
8-1



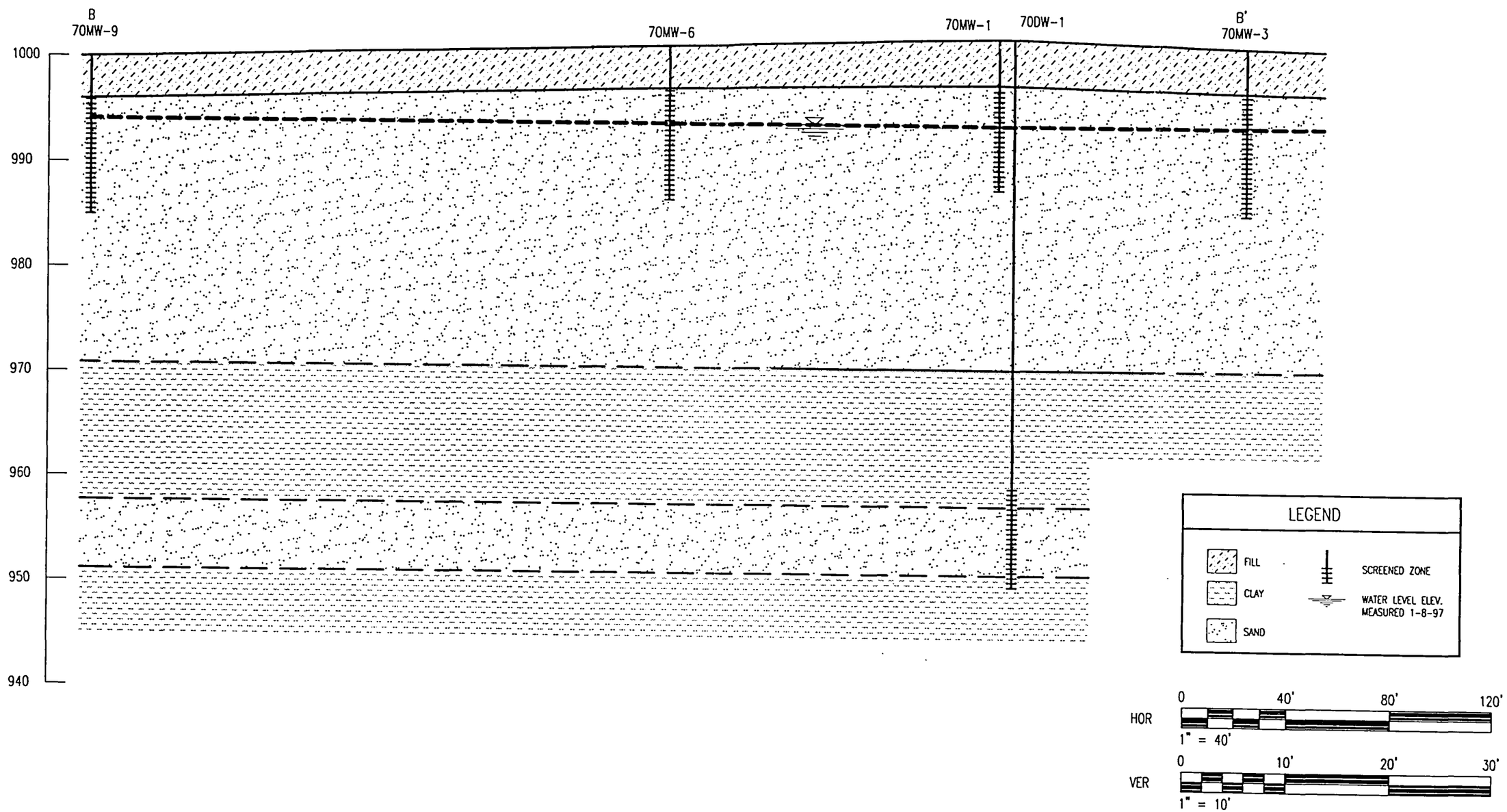
GERAGHTY & MILLER, INC.
Environmental Services

GEOLOGIC CROSS- SECTION A-A'

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
8-2

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-A-A | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 1/29/97



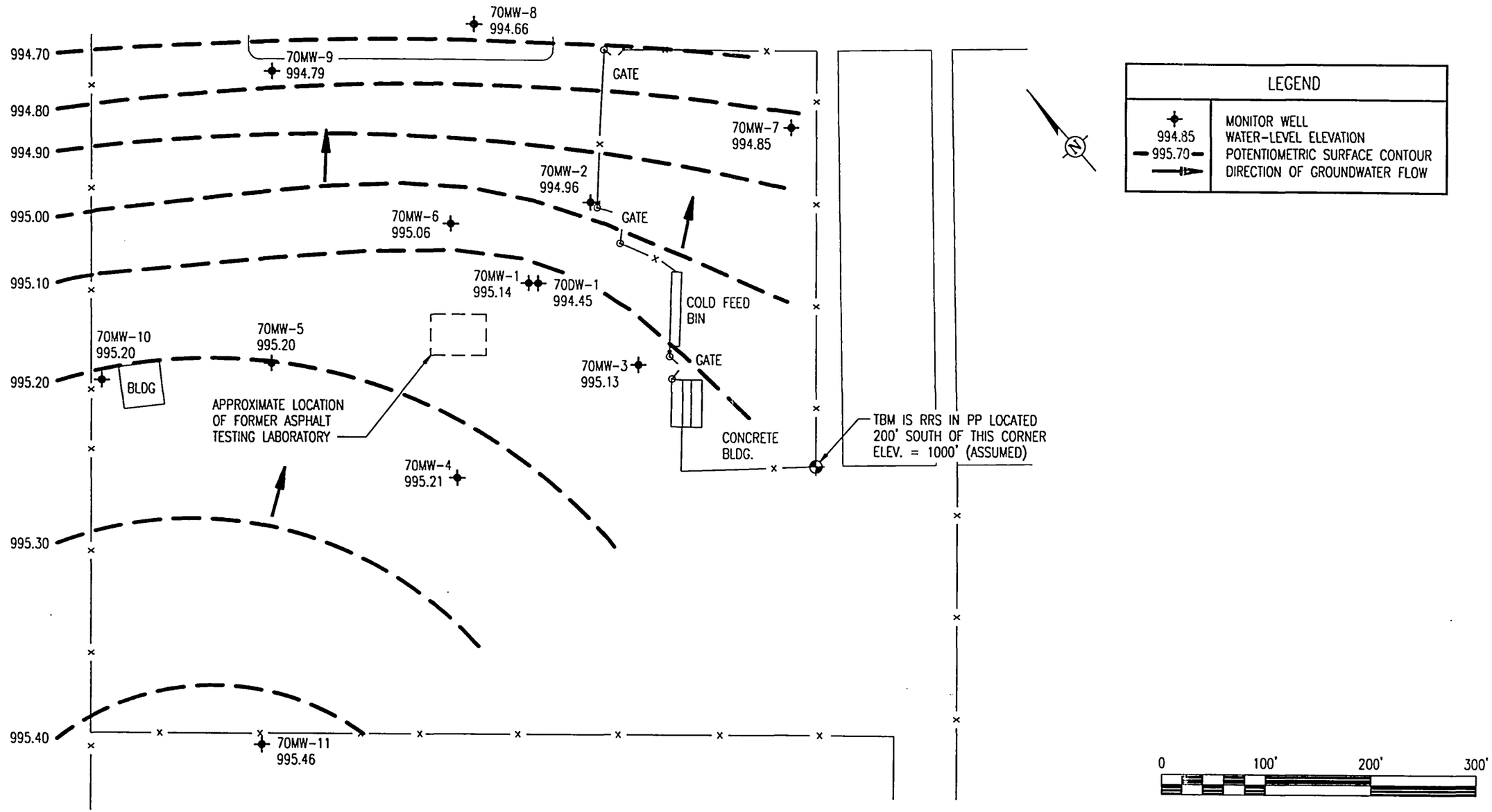
GERAGHTY & MILLER, INC.
Environmental Services

GEOLOGIC CROSS- SECTION B-B'

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
8-3

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-B-B | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 2/5/97

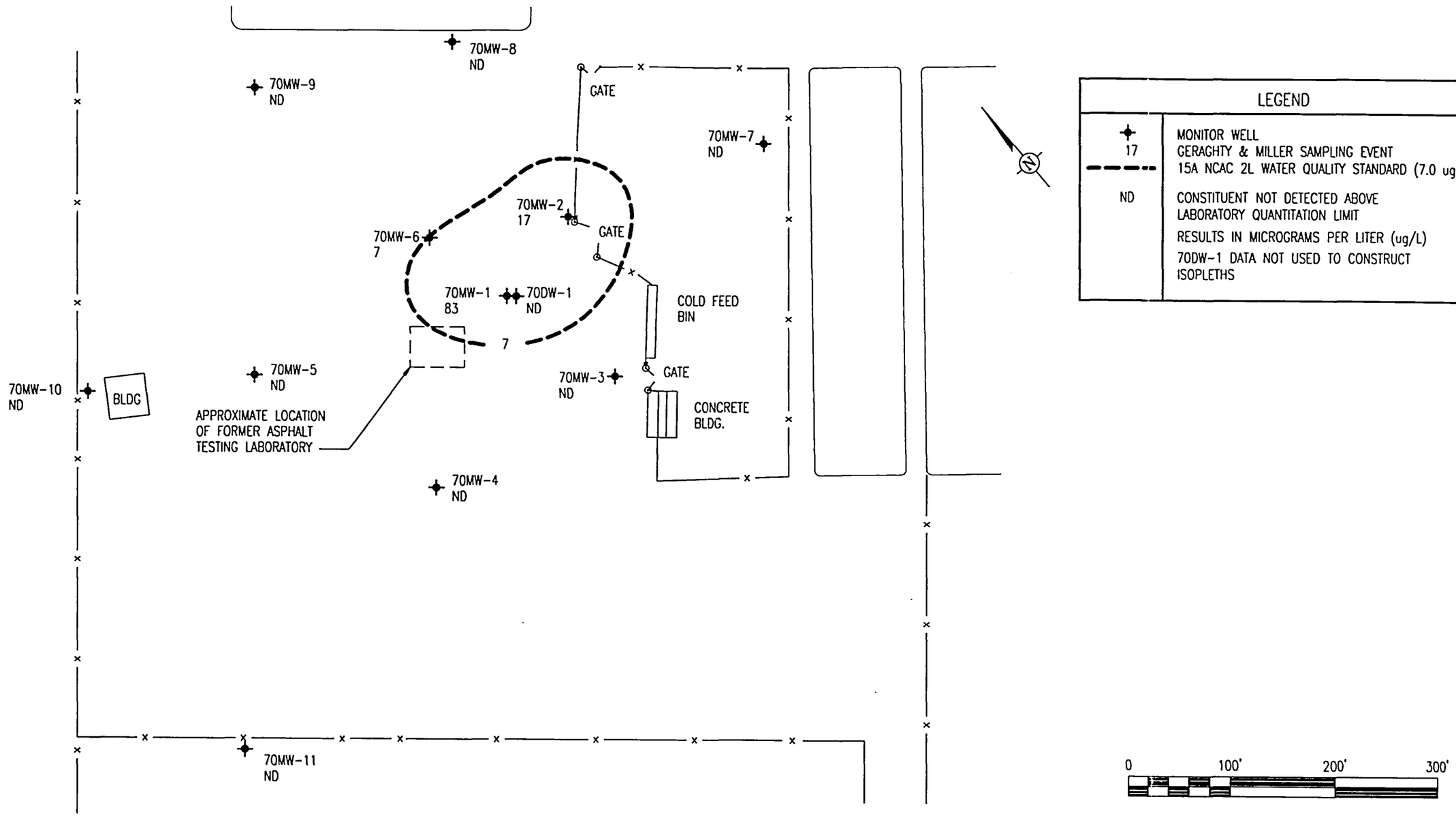


GERAGHTY & MILLER, INC.
Environmental Services

POTENTIOMETRIC SURFACE MAP
NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-1

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-8-1 | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/16/97



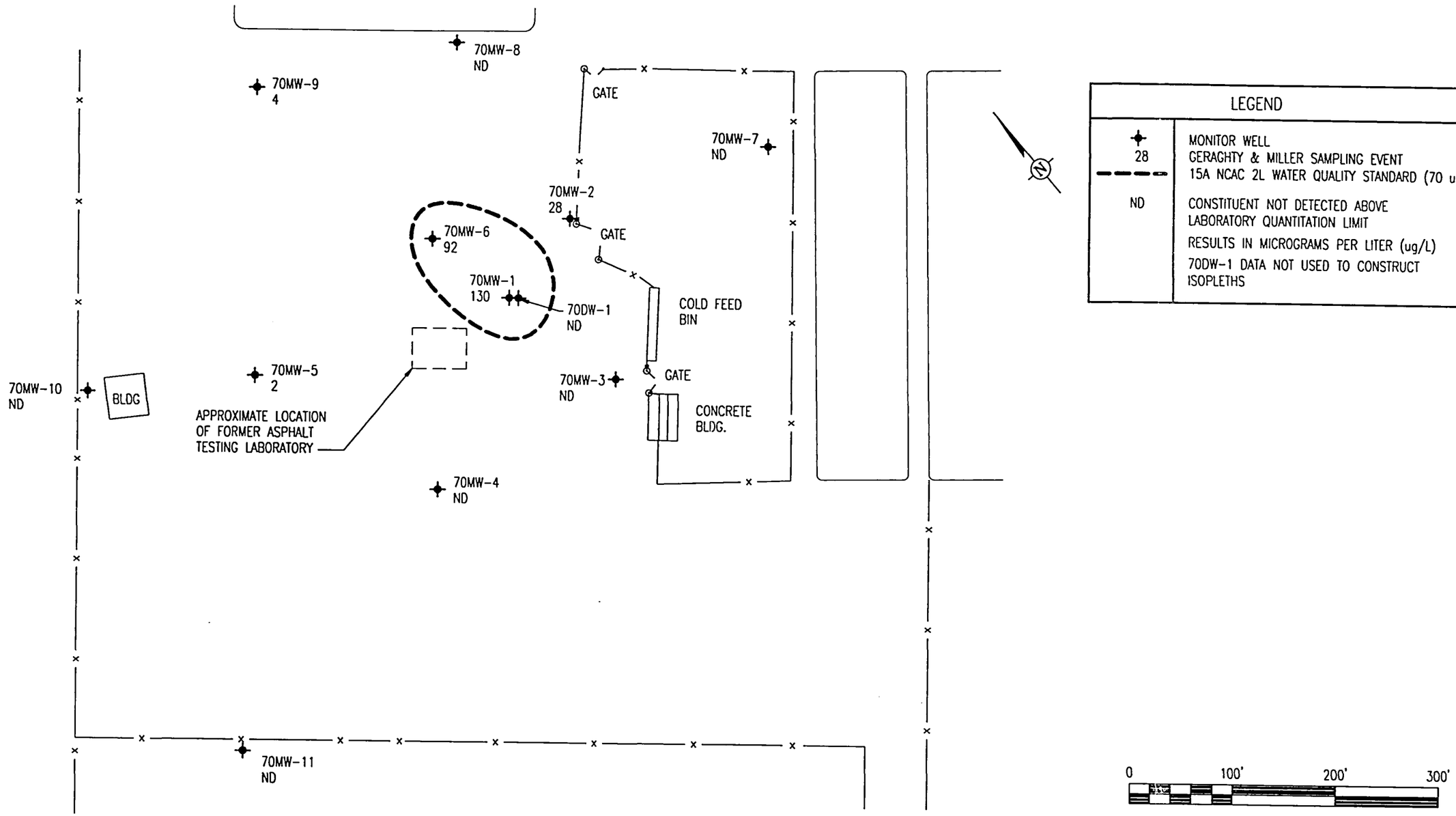
GERAGHTY & MILLER, INC.
Environmental Services

ISOCONCENTRATION MAP FOR 1,1- DICHLOROETHENE IN GROUNDWATER

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-2

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-8-2 | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/16/97

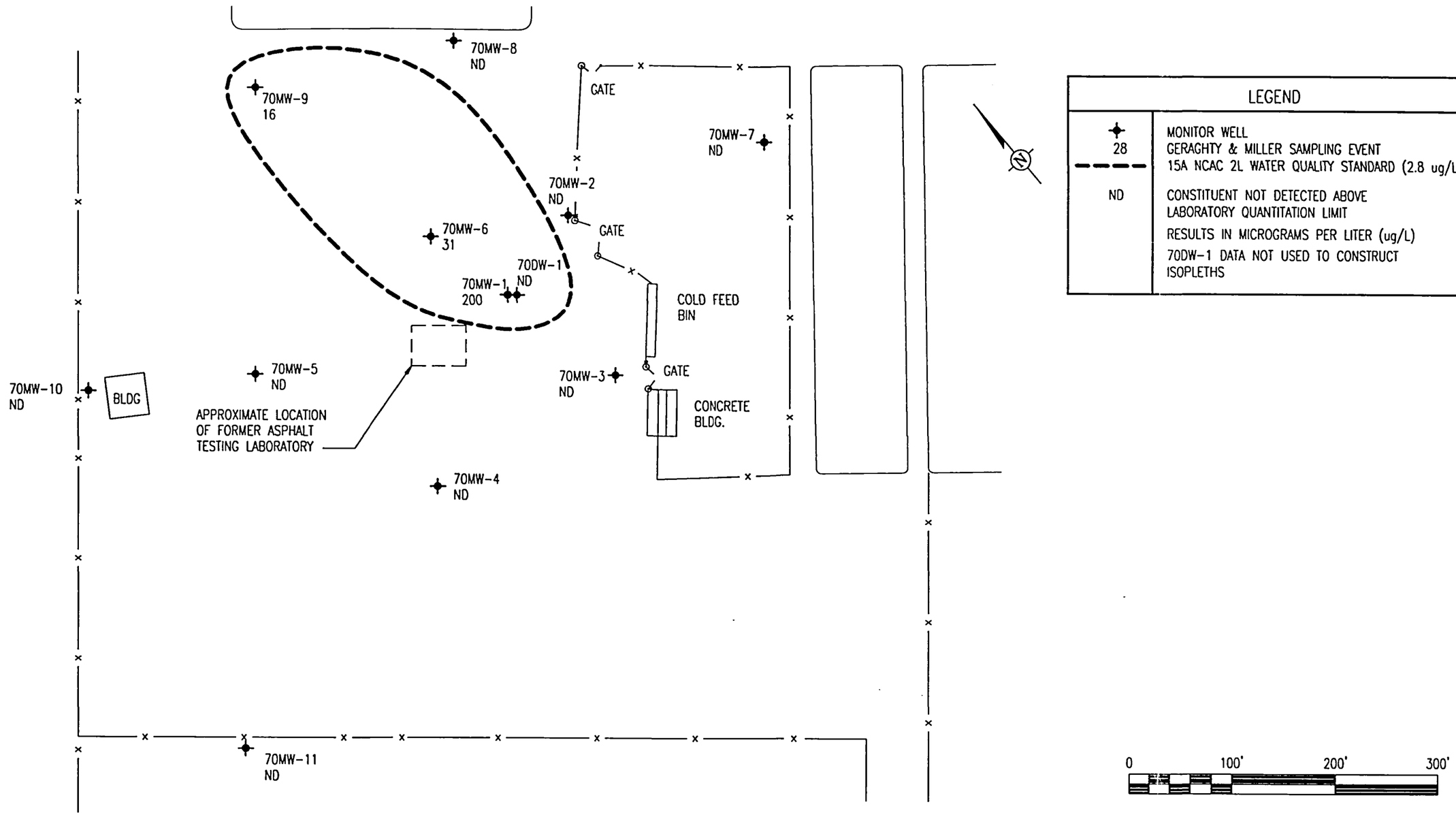


GERAGHTY & MILLER, INC.
Environmental Services

ISOCONCENTRATION MAP FOR CIS-1,2-DICHLOROETHENE IN GROUNDWATER
NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-3

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-8-3 | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/16/97



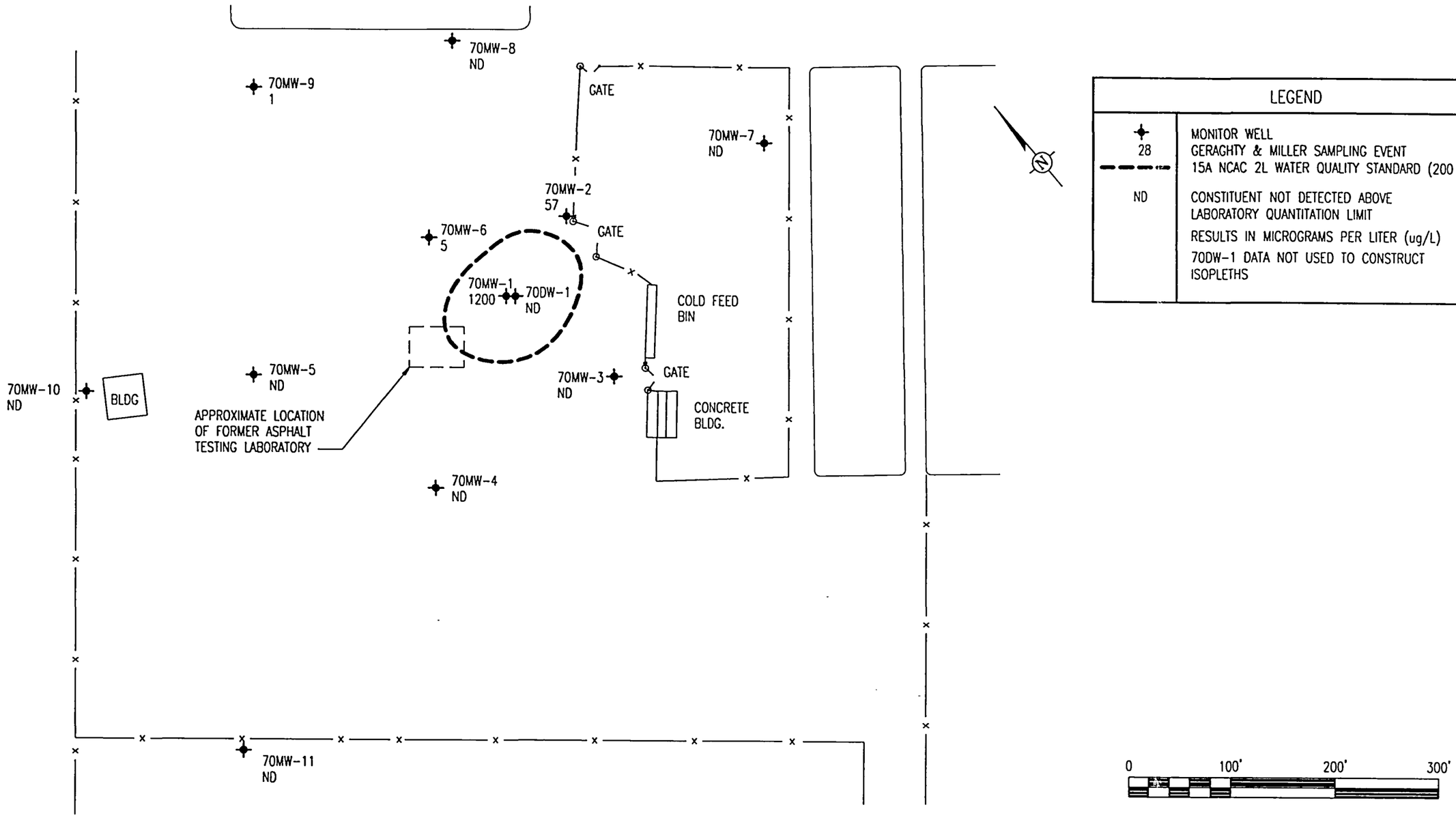
GERAGHTY & MILLER, INC.
Environmental Services

ISOCONCENTRATION MAP FOR TRICHLORETHENE IN GROUNDWATER

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-4

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-D-4 | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/16/97



LEGEND	
28	MONITOR WELL GERAGHTY & MILLER SAMPLING EVENT
	15A NCAC 2L WATER QUALITY STANDARD (200 ug/L)
ND	CONSTITUENT NOT DETECTED ABOVE LABORATORY QUANTITATION LIMIT
	RESULTS IN MICROGRAMS PER LITER (ug/L)
	70DW-1 DATA NOT USED TO CONSTRUCT ISOPLETHS

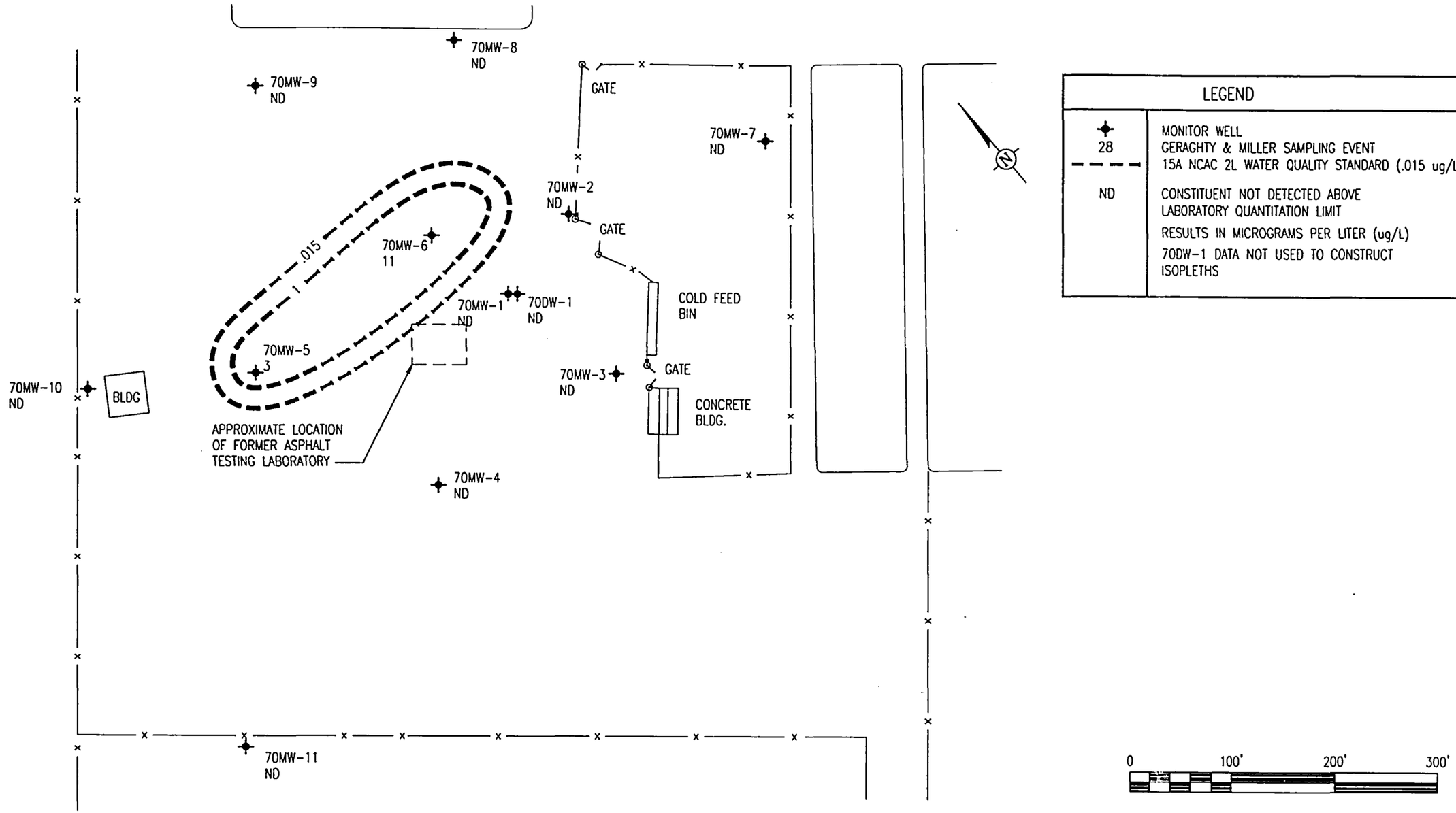
GERAGHTY & MILLER, INC.
Environmental Services

ISOCONCENTRATION MAP FOR 1,1,1-TRICHLORETHANE IN GROUNDWATER

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-5

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-5-5 | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/16/97

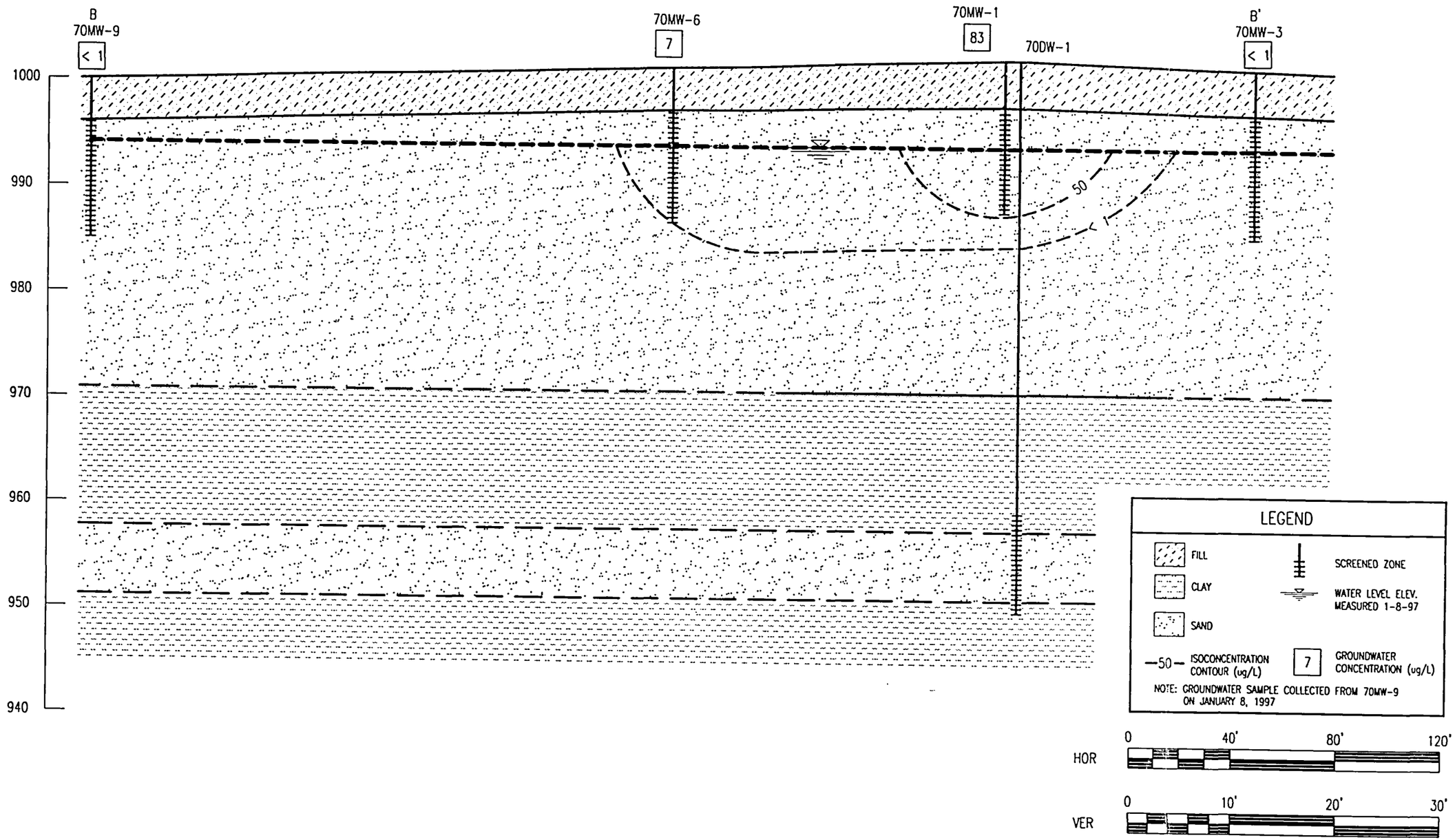


GERAGHTY & MILLER, INC.
Environmental Services

ISOCONCENTRATION MAP FOR VINYL CHLORIDE IN GROUNDWATER
NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-6

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-8-6 | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/16/97



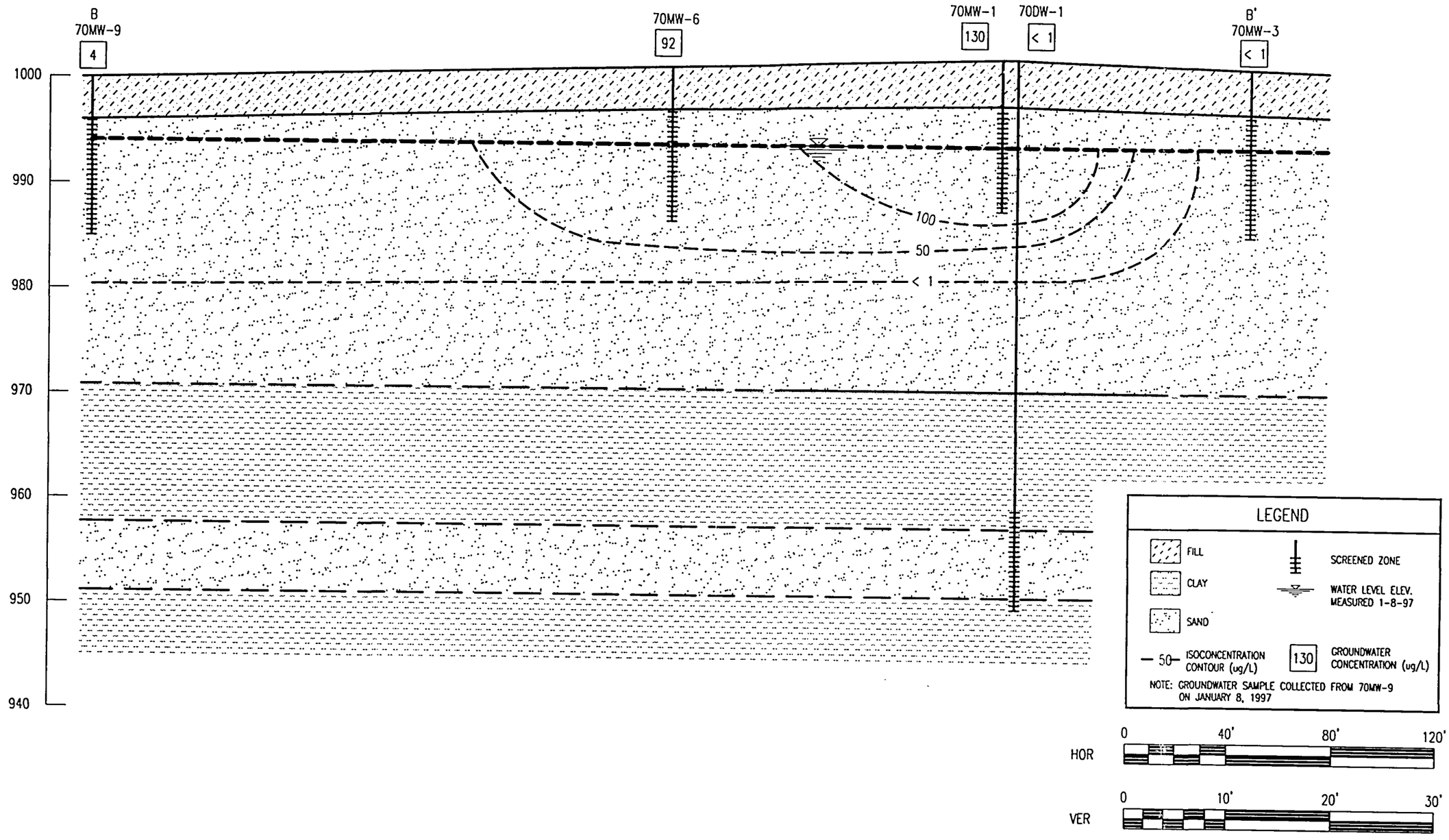
GERAGHTY & MILLER, INC.
Environmental Services

1,1-DICHLOROETHENE ISOCONCENTRATION CONTOUR CROSS-SECTION NOVEMBER 12, 1996 SAMPLING EVENT

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-7

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-B-D | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/14/97



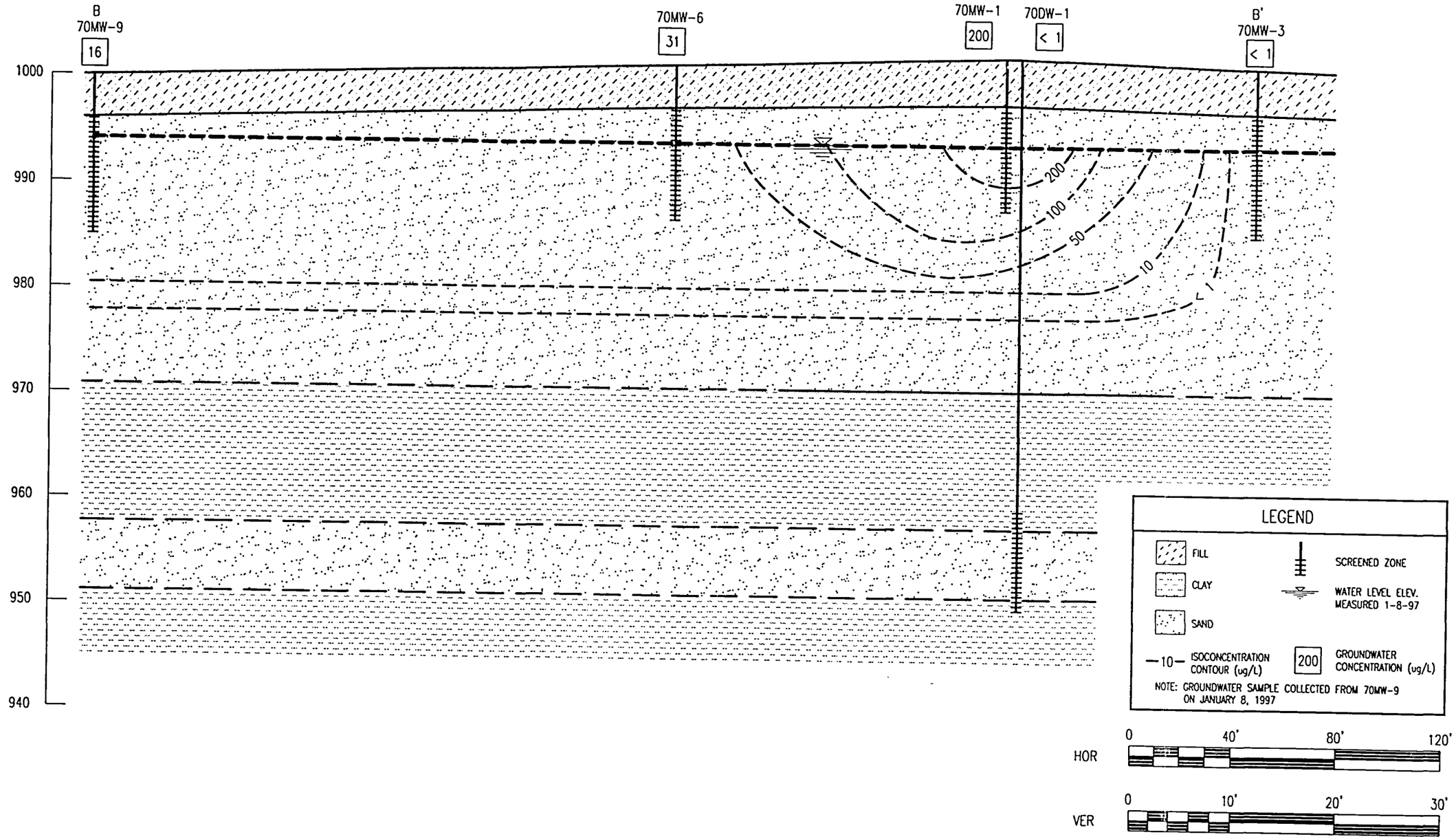
GERAGHTY & MILLER, INC.
Environmental Services

CIS-1,2-DICHLOROETHENE ISOCONCENTRATION CONTOUR CROSS-SECTION NOVEMBER 12, 1996 SAMPLING EVENT

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-8

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-B-D2 | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/14/97



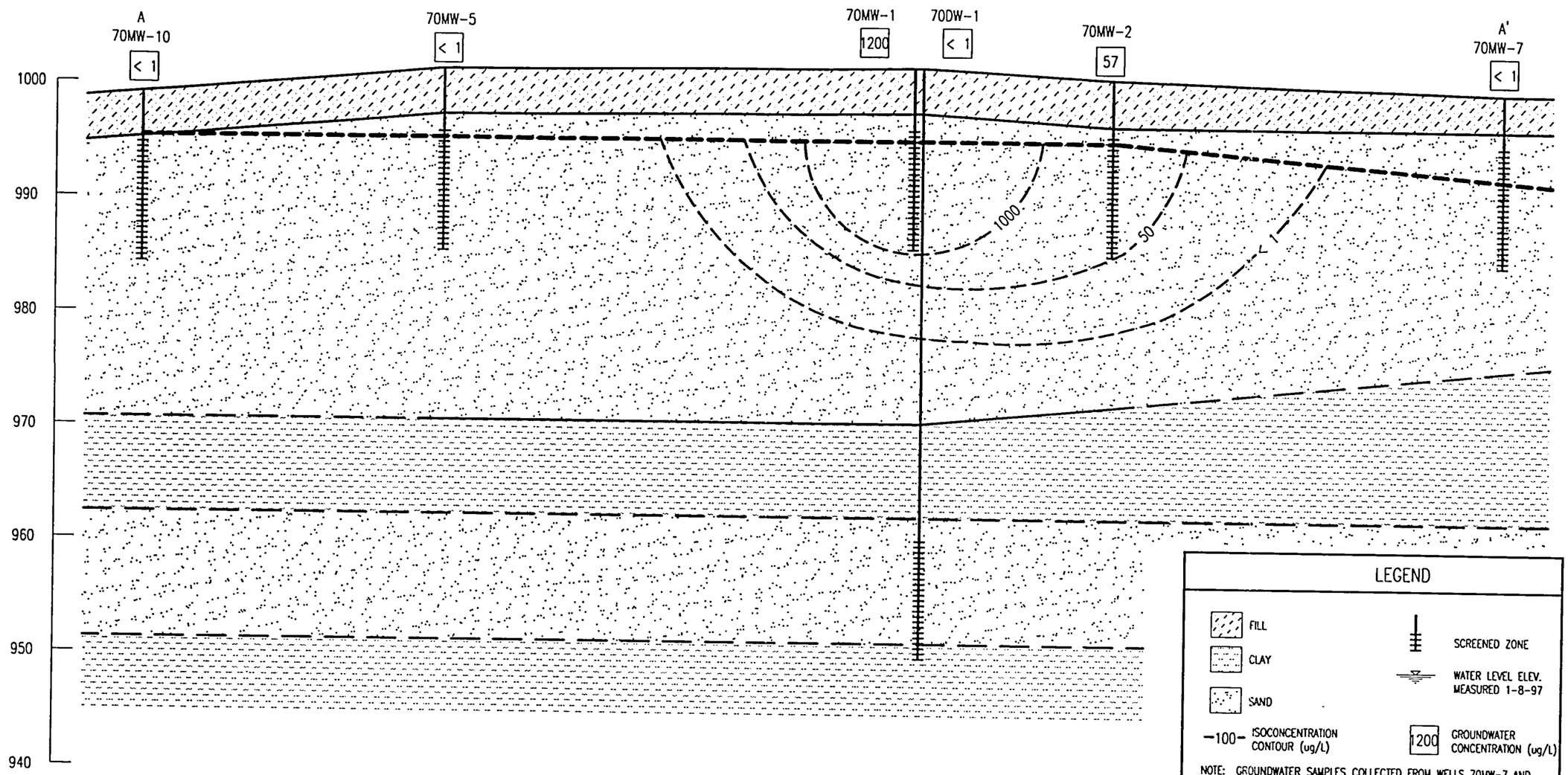
GERAGHTY & MILLER, INC.
Environmental Services

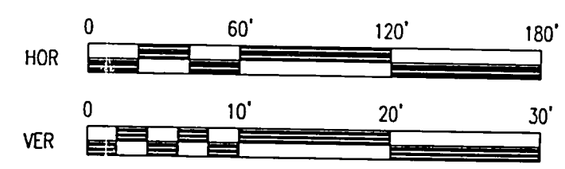
TRICHLOROETHENE ISOCONCENTRATION CONTOUR CROSS-SECTION NOVEMBER 12, 1996 SAMPLING EVENT

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-9

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-B-T | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/11/97





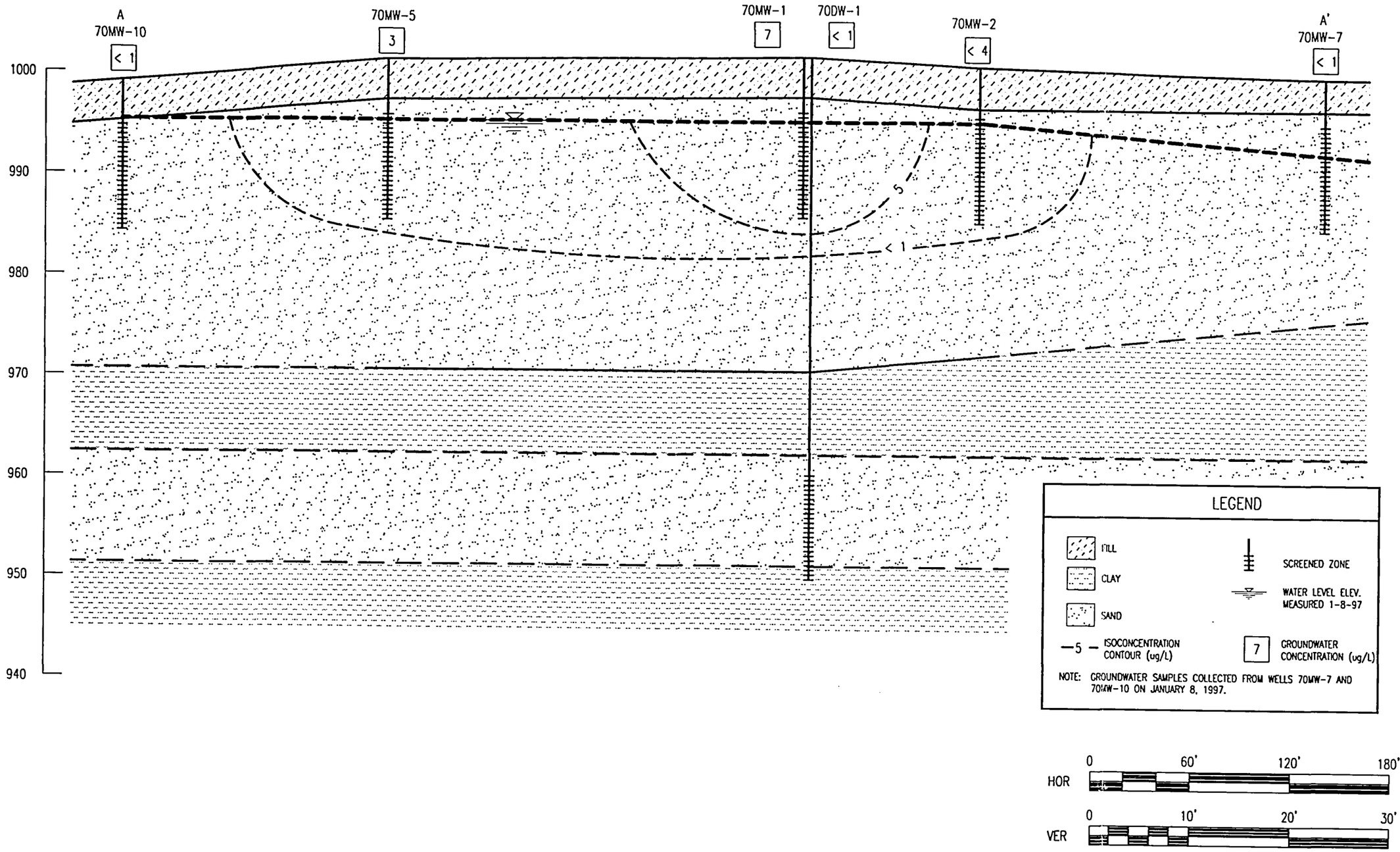
GERAGHTY & MILLER, INC.
Environmental Services

1,1,1-TRICHLORETHANE ISOCONCENTRATION CONTOUR CROSS-SECTION NOVEMBER 12, 1996 GROUNDWATER SAMPLING EVENT

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-10

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-A-T | FILE NO.: 7000 | PRJCT NO.: 39575 | DWG DATE: 4/14/97



GERAGHTY & MILLER, INC.
Environmental Services

VINYL CHLORIDE ISOCONCENTRATION CONTOUR CROSS-SECTION NOVEMBER 12, 1996 SAMPLING EVENT

NC DEPARTMENT OF TRANSPORTATION
SITE NO. 70
LUMBERTON, NORTH CAROLINA

FIGURE
9-11

DRAFTER: D. GARRIGUES | APPROVED: F. RASH | CHECKED: S. PATRICK | DRAWING: 70-A-V | FILE NO.: 7000 | PROJCT NO.: 39575 | DWG DATE: 4/14/97

APPENDIX A

APPENDIX A

NCDEHNR AND NCDOT LETTERS

42260-96-4-141N

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.
GOVERNOR

DIVISION OF HIGHWAYS
P.O. BOX 25201, RALEIGH, N.C. 27611-5201

GARLAND B. GARRETT JR.
SECRETARY

April 24, 1996

RECEIVED
MAY 06 1996
DEPARTMENT OF TRANSPORTATION
SAFETY AND LOSS CONTROL

Arthur Mouberry
Chief, Groundwater Section
North Carolina Department of Environment, Health and Natural Resources
P.O. Box 29535
Raleigh, NC 27626-0535

Re: NCDOT Asphaltic Materials Testing Priority Sites
Interim Screening Investigation Letter of Agreement

Dear Mr. Mouberry,

On April 16, 1996 a meeting was held between the North Carolina Department of Environment, Health and Natural Resources (NCDEHNR) and the North Carolina Department of Transportation (NCDOT) to discuss an interim screening investigation at the subject asphalt sites. An agreement between NCDEHNR and NCDOT was reached on the scope of the work to be followed during the interim screening investigation. As discussed in the meeting, none of the subject sites are owned by the NCDOT. Site activity by NCDOT personnel was limited to ASTM asphalt extraction testing in the laboratories. Following the screening investigation, it is our understanding that for sites having no soil impacts (based on published guidance by NCDEHNR Groundwater Section), and no groundwater impacts (based on Title 15A, Subchapter 2L, NCAC), NCDOT will submit an interim screening investigation letter report of findings requesting no further action which will be reviewed and approved by NCDEHNR. NCDEHNR has agreed to respond in writing within two to three weeks upon receipt of each letter report. The following summarizes the scope of work that will be uniformly executed at each of the asphalt laboratory sites based on this meeting.

The objective of this interim screening investigation is to focus on the identification of contaminants in soil and groundwater associated with the asphaltic materials testing activities. These contaminants consist of chlorinated solvents such as Carbon Tetrachloride, Trichlorethylene, Trichlorethane, and related degradation compounds. The suspected area of contamination at each of the priority asphalt sites is within the vicinity of the former/current asphaltic materials testing labs. Soil and groundwater samples will be collected at each site as described below.

A soil-vapor survey using manual soil probes, and field soil-vapor screening instruments (i.e. a portable gas chromatograph) will be utilized to initially identify localized "hot spots" of chlorinated solvent contamination. Following the soil-vapor survey, an array of six to ten soil borings using direct push technology (DPT) will be installed at each site in the vicinity of the asphaltic materials testing lab.

For sites at which use of DPT is unsuccessful (i.e. based on local geology), conventional drilling methods will be employed. If conventional drilling methods are used, and a change in the sampling plan becomes necessary, NCDOT will initiate discussion with NCDEHNR Groundwater Section to determine a revised sampling arrangement. At all boring locations, adequate measures will be taken to avoid the transfer of contamination from one sampling zone to another.

From these boring locations soil samples will be collected at shallow depths below the ground surface at two depth intervals. These soil borings will be installed at locations in the vicinity of the asphaltic laboratory building, which have been visually identified as suspect contamination areas and at the "hot spots" identified from the soil-vapor survey. Sampling depths will typically be from zero to five feet and five to ten feet below ground surface. Soil samples will be collected at each depth interval and shipped to an analytical laboratory for analysis of volatile organic compounds (VOC) using United States Environmental Protection Agency (EPA) test method 8021.

Eight to ten groundwater samples will be collected from the boring locations. These groundwater samples will be collected by advancing the probe approximately ten feet below the groundwater table. Samples will be obtained by methods that will minimize agitation. At two of the boring locations, down gradient of the suspected area of contamination, the sampling point will be further advanced to intermediate depths below the water table to characterize the vertical extent of contamination. Groundwater samples will be analyzed for VOC's by Standard Method 6230-D. Three temporary piezometers will be installed at selected locations to evaluate the hydraulic gradient at each of the sites.

An interim screening investigation letter report will follow each investigation if it is demonstrated that there are no unacceptable levels of groundwater contamination present based on the 2L groundwater quality standards or soil contamination based on published guidance by the NCDEHNR Groundwater Section. For sites that do not meet this criteria, additional investigations will be conducted and comprehensive site assessments will be prepared.

If after review of this letter of agreement you find it necessary to make changes please notify me immediately. We would like to begin the site investigations as quickly as possible, therefore your prompt response is requested. Should you have questions or comments I may be reached at (910)334-4273.

Sincerely,

Thomas C. Niver

Thomas C. Niver, P.G., CHMM
Environmental Engineer, Safety & Loss Control

Accepted by:

Arthur Mouberry

Arthur Mouberry, P.E.
Chief, Groundwater Section

c: Paul Roberts, NCDOT
Ted Bush, NCDEHNR
Jay Zimmerman, NCDEHNR
Frederic D. Rash, Geraghty & Miller, Inc.
Rudy Smithwick, Catlin & Associates, Inc.

RECEIVED
MAY - 7 1996
G & M RALEIGH

42260-96-9-174N

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.
GOVERNOR

DIVISION OF HIGHWAYS
P.O. BOX 25201, RALEIGH, N.C. 27611-5201

GARLAND B. GARRETT JR.
SECRETARY

July 3, 1996

Mr. Arthur Mouberry, P.E.
Groundwater Section Chief
North Carolina Department of Environment, Health, and Natural Resource
P.O. Box 29535
Raleigh, NC, 27626-0535

RE: Laboratory Analytical Methods for Phase II Investigation Letter of Agreement

Dear Mr. Mouberry,

On June 13, 1996 a meeting was held between the North Carolina Department of Environment, Health, and Natural Resources (DEHNR) and the North Carolina Department of Transportation (NCDOT). This meeting was held to discuss the execution of laboratory analytical methods for comprehensive site assessments (CSA's) at asphaltic materials testing priority sites 22-72. As discussed in the meeting, NCDOT is prepared to execute the second phase (Phase II) of investigation at several sites where the interim screening investigation has been completed, or did not provide conclusive information. This letter represents the agreement between DEHNR and NCDOT to use the proposed analytical methods, as defined below, to conduct CSA's at the asphaltic materials testing priority sites 22-72.

NCDOT Consultants will follow the Division of Water Quality (DWQ) Groundwater Section Guidelines For The Investigation and Remediation of Soils and Groundwater for the Phase II investigation. As stated within the guidelines, vertical and horizontal delineation of groundwater will use U.S. Environmental Protection Agency (EPA) Methods 601 and 602 for volatile organic compounds; for the vertical and horizontal delineation of soil, EPA Method 8021 will be used. Groundwater samples will be collected and analyzed for VOC's by Standard Method 6230-D, prior to plume delineation, for sites where groundwater analytical results were not obtained from the Interim Phase I Site Investigation.

In addition, soil and groundwater may be collected and analyzed for VOC's by EPA Method 8260-B. These samples will be collected from locations centralized within the

contaminant plume for compound confirmation. If Standard Method 6230-D and/or EPA Method 8021 analytical results show concentrations of polycyclic aromatic compounds (PAH), soil and groundwater samples may be collected and analyzed. The soil samples will be analyzed by EPA Method 8270-B, and groundwater samples will be analyzed by EPA Method 625 for confirmation of semi-volatile compounds, for base neutral compounds only.

If after review of this letter of agreement you find it necessary to make changes, please notify me immediately. We have already initiated Phase II investigations at some sites, therefore your prompt response is appreciated. Should you have any questions or comments I may be reached at (910)334-4273.

Sincerely,

Thomas C. Niver, P.G., CHMM
Environmental Engineer, Safety & Loss Control

Accepted by:

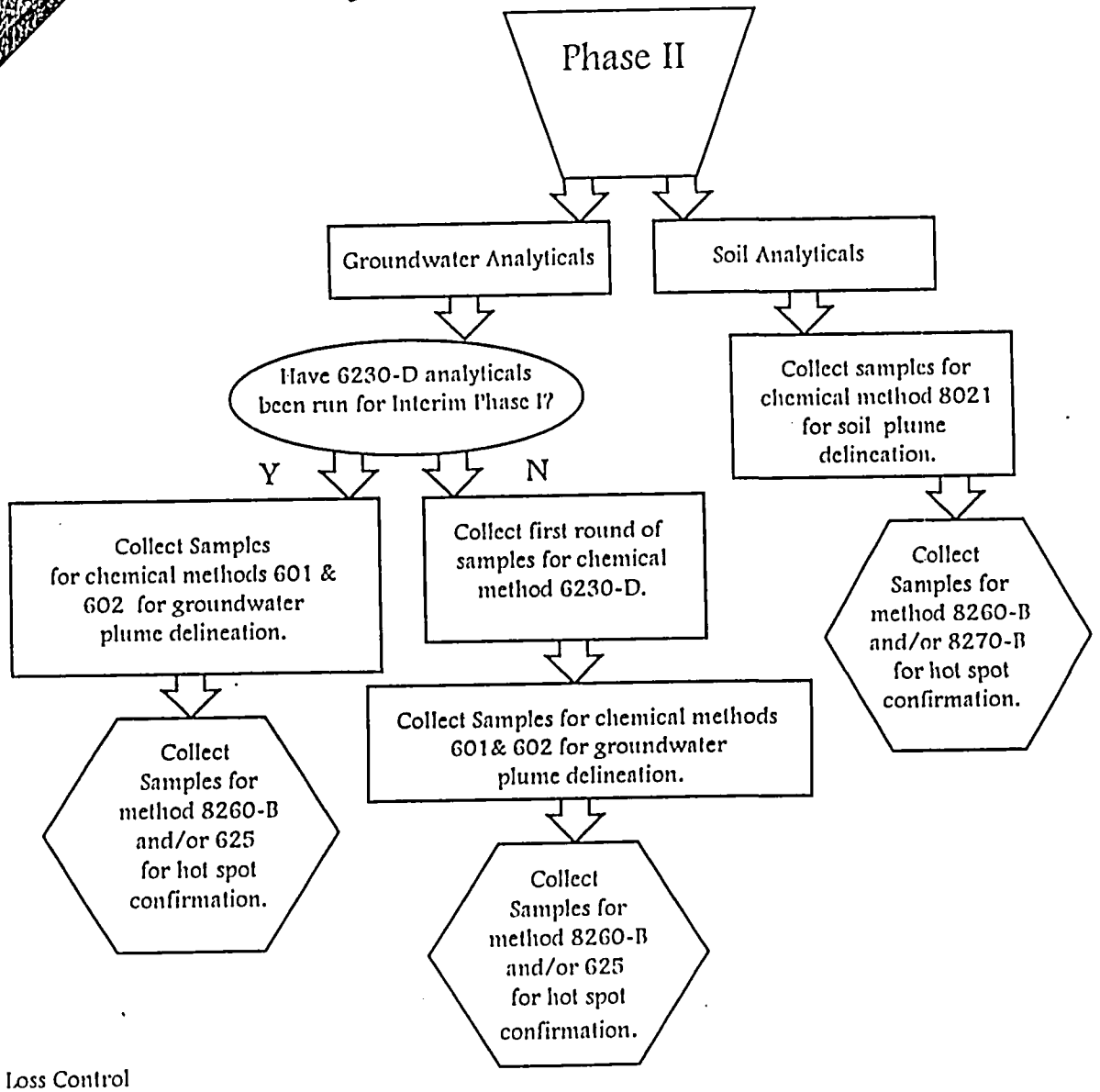
Arthur Mouberry, P.E.
Groundwater Section Chief

Enclosures
dmm\TCN

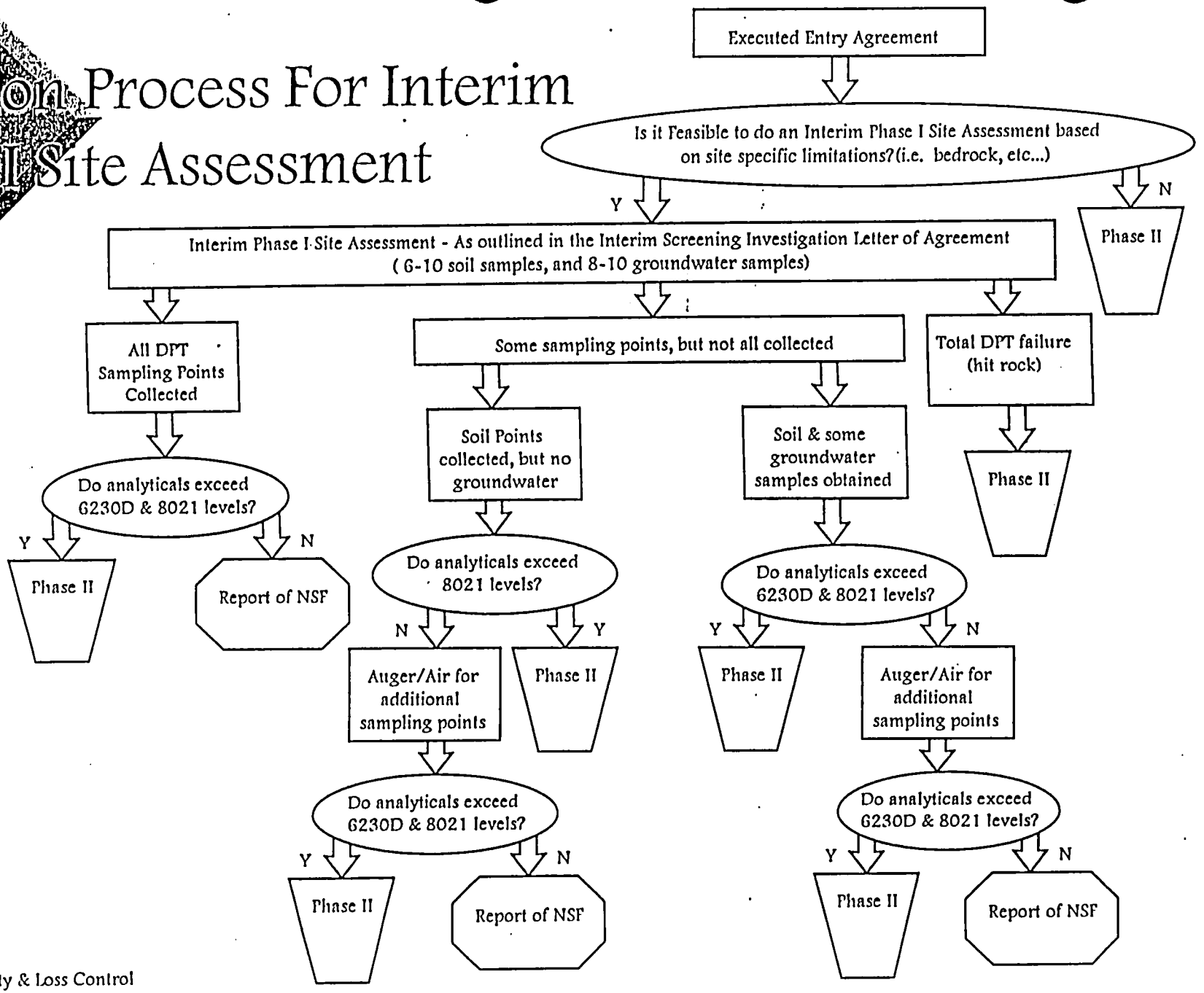
cc: Paul Roberts, North Carolina DOT
Duane MacEntee, North Carolina DOT
Ted Bush, North Carolina DEHNR
Frederic D. Rash, Geraghty & Miller, Inc.
Rudy Smithwick, Catlin & Associates, Inc.

RECEIVED
JUL 16 1996
G & M RALEIGH

Phase II Analyticals For Soil & Groundwater



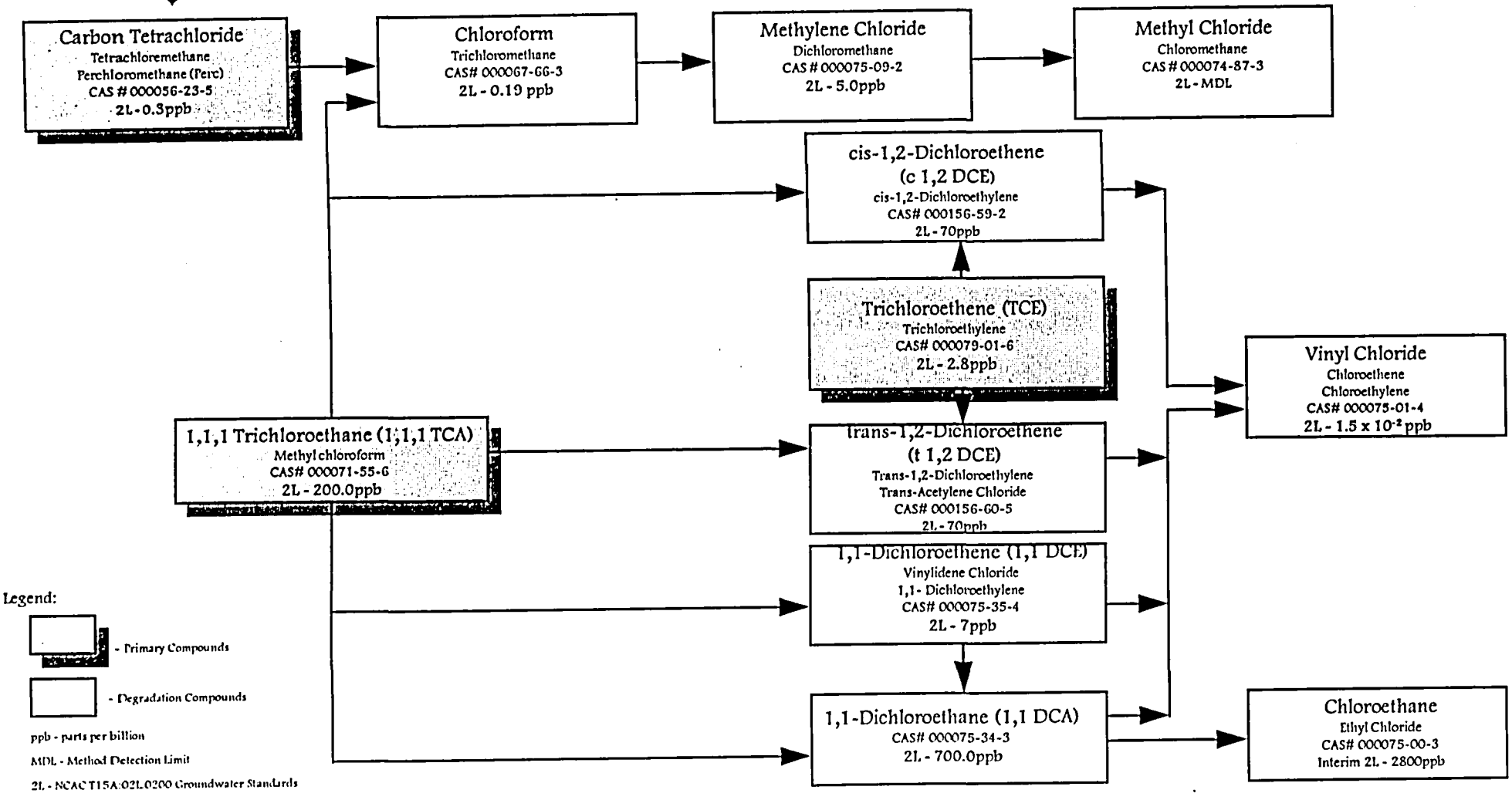
Decision Process For Interim Phase I Site Assessment



DMM - NCDOT Safety & Loss Control

Target Chlorinated Solvents Transformation Pathways

Transformation Pathways for Various Volatile Priority Pollutants in Soil-Groundwater Systems from Smith and Dragun, 1984.



ACCEPTABLE SOIL CONCENTRATIONS OF TARGET COMPOUNDS

Constituent	S Solubility in H_2O (mg/L)	C_L 2L GW Standard (mg/L)	C_s Acceptable Soil Concentration (mg/Kg)	C_s Acceptable Soil Concentration (ug/Kg)
Carbon tetrachloride	800.0	0.0003	0.00147	1.5
1,1,1-Trichloroethane	4,400.0	0.20	8.14911	8,149.1
Trichloroethylene (TCE)	1,100.0	0.0028	0.03281	32.8
Chloroform	8,168.7	0.000190	0.00021	0.2
Methylene chloride	16,200.0	0.005	0.01761	17.6
Methyl chloride	16,260.0	NS	NA	NA
cis-1,2-Dichloroethene	3,500.0	0.07	1.97417	1,974.2
trans-1,2-Dichloroethene	6,300.0	0.07	1.43026	1,430.3
1,1-Dichloroethene	3,900.0	0.007	0.06304	63.0
1,1-Dichloroethane	5,500.0	0.70	45.47299	45,473.0
Vinyl chloride	1,900.0	0.000015	0.00001	0.01
Chloroethane	4,700.0	2.800000	380.37500	380,375.0

Notes:
S values from Montgomery, J.H., and L.M. Welkom, Groundwater Chemicals Desk Reference, 1990.
C_S is determined by the following equation as defined in "Groundwater Section Guidelines For The Investigation and Remediation of Soils and Groundwater" (NCDEHNR, DWQ, June 1993):

$$C_S = [C_L/(0.0021s)^{0.373}]^{1.47}$$

This equation is not applicable to petroleum substances or compounds which are contained in petroleum substances.
All solubility data is reported as mg/L at 25 °C.
Solubility for 1,1,1-trichloroethane is based on 20 °C.
NS - No 15 NCAC 2L Standard Exists for this compound.
NA - Not applicable.

APPENDIX B

APPENDIX B

SITE SCREENING INFORMATION

Sw Lumberton

#70

ASPHALT PLANT SAMPLING FORM

Date 6-13-89 Person Sampling Greg Kissel

Current Owner Crowell Lumberton Sample Type (Soil/Water) JGK 5W JGK 5S

OSEP Code # (CN-PN-SN) Cnty/plnt/sample Robeson/Crowell/JGK5S, JGR5W

Location of Plant Hwy 74 1mi. West of I-95

General Slope of Land (from sample point) Flat

Soil Type (Loamy, Granular, Rocky, Clay, Sandy, Other) Sandy/Clay

Approximate Time & Durations of DOT site use 1976 to present Sporadically

Previous or Simultaneous Use of site by other than DOT parties? (Y?/N) Not Known

In the event that multiple screening samples are conducted with a VOA or similar instrument, list the sample numbers and results here.

Sample #	Reading	Sample #	Reading	Sample #	Reading
1	<1	7	3ppm		
2	<1				
3	<1				
4	6ppm				
5	<1				
6	<1				

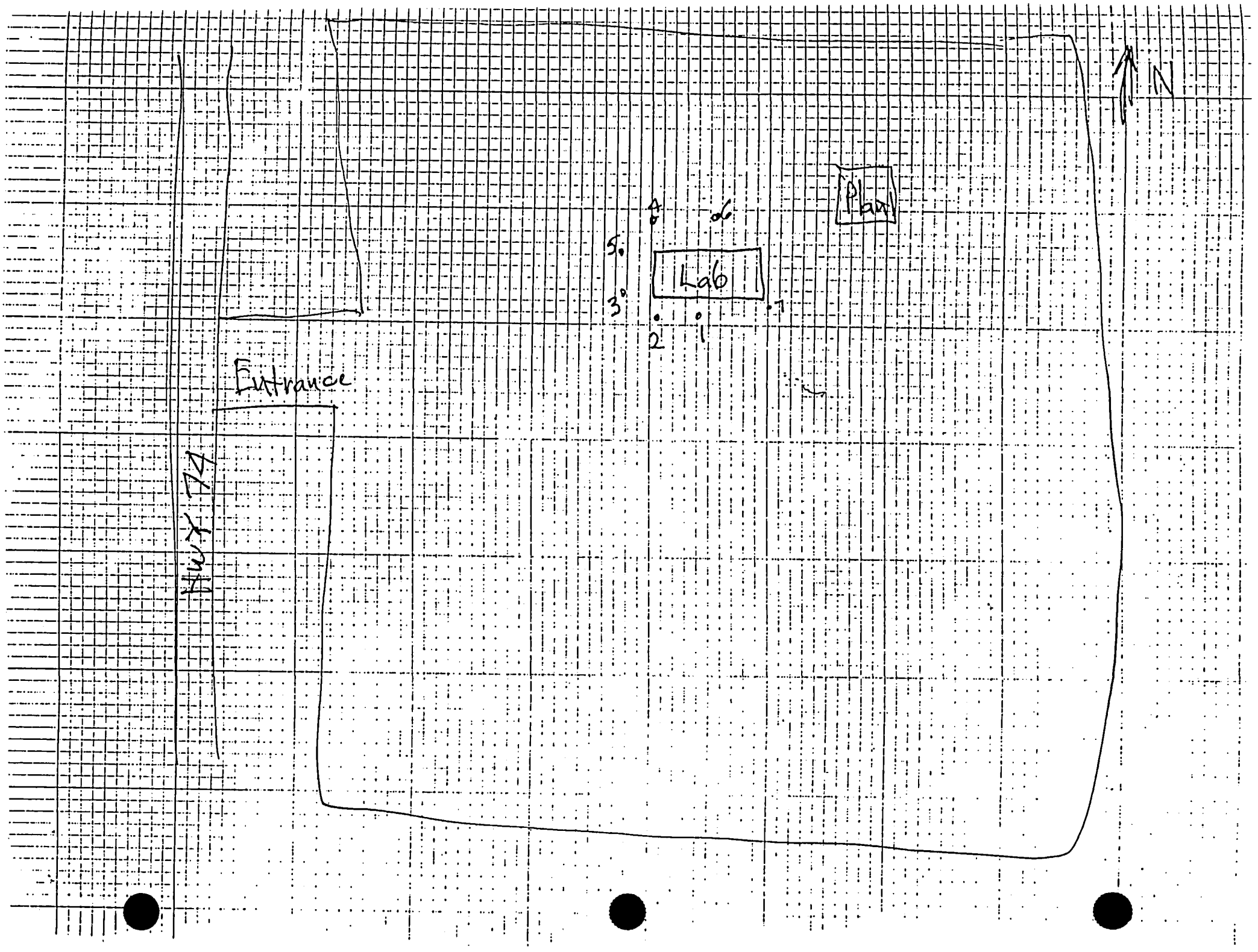
Comments: Hole #4 where old tested asphalt discarded. Traces of Trico-Ethane in this immediate area. No other indications on site. This site on city water. Old well is inoperative. Soil sample from hole #4. Water sample from plant runoff lake behind lab 400'.

Results: JGK 5W - CCL4W <0.5 UG/L TRCLAW <0.5 UG/L TRCLEW 1.64 UG/L

JGK 5S - CCL4S <0.5 MG/KG TRCLAS <0.5 MG/KG TRCLES <0.5 MG/KG

Send Results to: Henry Haddock V.P. CROWELL CONSTRUCTORS, INC. P.O. Box 53645 Fayetteville, N.C. 28305 919-485-2135

Note: A copy of any lab analysis should be attached to this form.


N
Plan
Lab
1
2
3
4
5
6
7
Entrance
Hwy 77

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
P.O. BOX 25201
RALEIGH 27611-5201

JAMES G. MARTIN
GOVERNOR

JAMES E. HARRINGTON
SECRETARY

DATE February 22, 1989

DIVISION OF HIGHWAYS

GEORGE E. WELLS, P.E.
STATE HIGHWAY ADMINISTRATOR

MEMORANDUM TO: TO WHOM IT MAY CONCERN

The Department of Transportation is conducting a survey of properties on which State-owned asphalt testing laboratories were located to determine if any contaminants or other materials that may be potentially hazardous to the environment remain on any portion of these properties. The property which you now own may have been a site for one of the Department's asphalt testing laboratories. By executing this letter, you, the undersigned owner, hereby grants permission for Department of Transportation personnel, or their authorized agents, to enter upon your property to the extent necessary to investigate the presence of contaminants or potentially hazardous substances. The investigation is limited solely to the taking of soil samples using hand-powered methods and the collection of water samples from on-site water supplies.

After completion of the site investigation and analysis of soil and water samples, the Department agrees to share with you the results and conclusions of the investigation. If contaminants or potentially hazardous substances directly resulting from the past operations of these asphalt testing laboratories are detected, you will be advised as to the measures the Department will take to clean up or render harmless those contaminants or hazardous substances.

Thank you for your cooperation in this matter.

WITNESS

Henry L. Haddock, Vice President
CROWELL CONSTRUCTORS, INC.
P.O. Box 53645
Fayetteville, NC 28305
ADDRESS
919-485-2135
TELEPHONE NO.

ADAII:gp

DOT Asphalt Lab Contamination
1/24/90

70

Sample Date(yy/mm/dd): 89/6/13
Division: 6 County: 46 ROBESON CO. Tester: JDGGGK

Plant Owner: Crowell Lumberton

Address: Lumberton, N. C.
Site Location: Hwy 74 1 mile West of I-95

Sample Taken (y/n): Y
Sample Type(w/s): W
Sample#: jgk5w

Soil Type: Sandy/clay

mg/kg=ppm mg/l=ppm ug/kg=ppb ug/l=ppb
Trichloroethylene (TCE): 1.64 ug/l
Trichloroethane (TCA): <0.5 ug/l
Carbon Tetrachloride (CCl4): <0.5 ug/l

Comments: Hole #4 where old tested asphalt discarded. Traces of Trico-ethane in this immediate area. No other indications on site. This site on city water. Old well is inoperative. Soil sample from hole #4. Water sample from plant runoff lake behind lab 400'.

DOT Asphalt Lab Contamination
1/24/90

46

Sample Date(yy/mm/dd): 89/6/13
Division: 6 County: 46 ROBESON CO. Tester: JDGGGK

Property Owner: Crowell Lumberton

69

Address: Lumberton, N. C.
Site Location: Hwy 74 1 mile West of I-95

Sample Taken (y/n): Y
Sample Type(w/s): W
Sample#: jgk5w

Soil Type: Sandy/clay

mg/kg=ppm mg/l=ppm ug/kg=ppb ug/l=ppb

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Trichloroethane (TCA): <0.5 ug/l
Carbon Tetrachloride (CCl4): <0.5 ug/l

Comments: Hole #4 where old tested asphalt discarded. Traces of Trico-ethane in this immediate area. No other indications on site. This site on city water. Old well is inoperative. Soil sample from hole #4. Water sample from plant runoff lake behind lab 400'.

NORTH CAROLINA

GROUNDWATER CONTAMINATION INCIDENT MANAGEMENT

SITE PRIORITY RANKING SYSTEM

Groundwater Incident File # NA Site Rank 46

Incident Name Crowell Const. Co Asphalt Plant; Lumberton NC Ranking Performed by W Fletcher

Date Ranking Performed 13 Mar 90

Region/County FRO / Robeson Co

I. Contaminants Involved

TCE 16.4 µg/l — —

TCA <0.5 µg/l — —

CCl_4 <0.5 µg/l — 18?

(If more space is required, use back of form)

II. Exposure Assessment

Points Awarded

A. Contaminated Drinking Water Supplies

1. Private, domestic supply well(s) containing substances in concentrations exceeding Class GA underground water quality standards; award to each impacted well the matrix value(s) from the Sax Toxicity - persistence matrix, shown in Attachment A to explanatory notes, for the contaminants found in each well, and sum the values from all impacted wells 0

2. Public or institutional water well containing substances in concentrations exceeding Class GA underground water quality standards; award to each impacted well the matrix value(s) form

the Sax Toxicity - persistence matrix, shown in Attachment A to the explanatory notes, for the contaminants found in each well, and sum the values from all impacted wells _____0_____

3. If a water supply well identified in items II.A.1 and II.A.2 cannot be replaced by an existing public water supply source, award 5 points per irreplaceable well _____0_____

B. Threat to Uncontaminated Drinking Water Wells

1. Private, domestic water supply well located within 1,500 feet downgradient hydrogeologically of the contaminant source; award 5 points per well _____0_____

2. Public or institutional water supply well located within 1/2 mile downgradient hydrogeologically of the contaminant source; award 10 points per well _____0_____

3. If any well identified in items II.B.1. and II.B.2. is located within 250 feet downgradient hydrogeologically of the contaminant source; award an additional 10 points per threatened well _____0_____

III. <u>Contaminant Hazard Assessment</u>

A. The assessment of hazard is based on Sax Toxicity and the persistence of the <u>most hazardous</u> substance detected in an investigation and the amount, estimated or actual, discharged

1. The highest matrix value for the contaminants involved in the incident from the Sax Toxicity-persistence matrix (shown in Attachment A to the explanatory notes) _____18_____

2. The value for the amount discharged is based on gallons of material, where other volumetric or weight measures are used to characterize a material, the relationship 1 ton ≈ 1 cubic yard ≈ 4 drums ≈220 gallons will be used to determine the number of gallons discharged and is assigned according to the following table:

no discharge	-	0
≤ 10 gallons	-	1
>10 but ≤ 100 gallons	-	2
>100 but ≤ 1000 gallons	-	5
>1000 gallons	-	10

10

IV. Source Assessment

A. Primary Source - Uncontrolled or unabated Primary Sources such as, but not limited to, dump sites, stockpiles, lagoons, land applications, septic tanks, landfills, underground or above ground storage tanks, and transportation accidents

1. Suspected or confirmed source remains in active use, continues to receive petroleum products, raw materials, wastewater or solid waste, and continues to discharge contaminants; award 20 points

0

2. Active use of suspected or confirmed source has been discontinued or the source resulted from a one-time release of contaminants, such as a spill resulting from a transportation accident, but the source continues to release contaminants into the environment as with a closed landfill or a transportation accident where no remediation of contaminated soil or product has been accomplished; award 10 points

10

B. Secondary Source

1. Free product thickness ≥ 1/4 inch detected on the water table in observation or monitoring well; award 50 points

0

2. Soil exhibits partial or full saturation with contaminant, or product vapors in excess of 100 ppm as measured by organic vapor detection equipment; award 20 points

0

V. Hydrogeological Assessment

A. Depth to Water Table - The depth is measured vertically from the deepest point of penetration of the contaminant to the highest

level of the seasonal high water table; if the depth is not known, it should be estimated from the best available data; and a value assigned from the following table:

Depth	Assigned Value
≥ 50 feet	0
< 50 to ≥ 30 feet	2
< 30 to ≥ 20 feet	4
< 20 to ≥ 10 feet	6
Contaminant has reached groundwater	8
Contaminant has entered the fractured bedrock aquifer	10

8

B. Average Horizontal, Linear Groundwater Velocity - From the relationship for steady state, average velocity, $v = K/n\ dh/dl$, an estimate of movement of conservative contaminats may be made. The horizontal, saturated hydraulic conductivity (K) may be determined by aquifer test or estimated by field or laboratory tests or as a last resort, from generalized tables of aquifer materials, shown in Attachment A to the explanatory notes, K = 5×10^{-4} ft/day. The porosity (n) of aquifer materials may be determined from laboratory tests or estimated from aquifer test or generalized tables, shown in the Attachment A to the explanatory notes, n = 0.49. From the monitoring of water level elevations in wells penetrating the aquifer of concern or estimates based on interpretations of the topography of the site area, the gradient of the water table may be estimated, dh/dl = 5/500 ft/ft. From the computed velocity a rank value may be assigned as follows: 1.0×10^{-5} ft/day

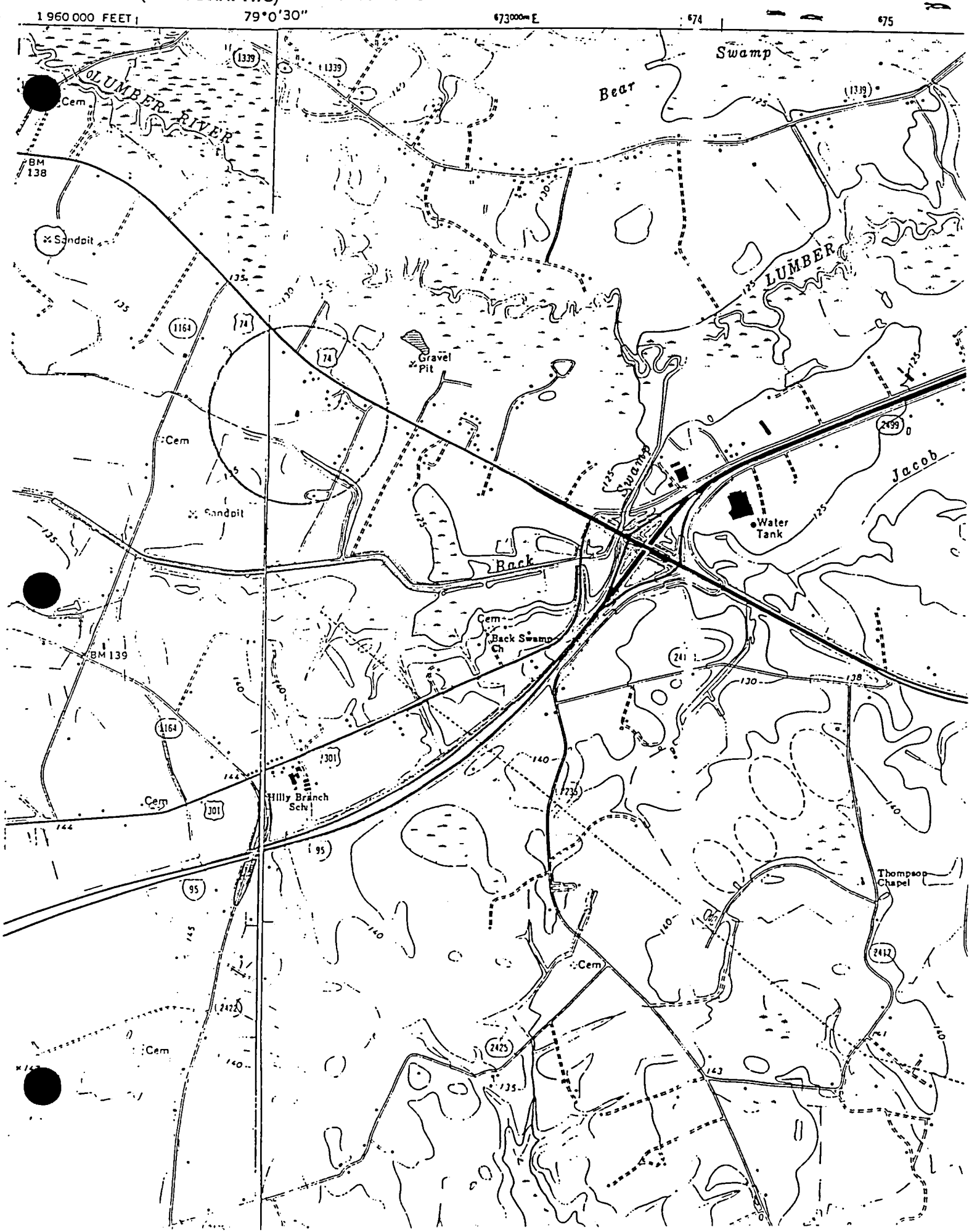
Average Velocity ($\bar{v} = k/n\ dh/dl$)	Assigned Value
$<2.74 \times 10^{-3}$ ft/day	0
$\geq 2.74 \times 10^{-3}$ to $< 1.0 \times 10^{-2}$ ft/day	1
$\geq 1.0 \times 10^{-2}$ to 1.0×10^{-1} ft/day	3
$\geq 1.0 \times 10^{-1}$ to 1.0 ft/day	5
≥ 1.0 ft/day	10

0

VI. Site Rank (sum of assigned values)

46

I CAROLINA—ROBESON CO. DEPARTMENT OF THE INTERIOR
UTE SERIES (TOPOGRAPHIC) GEOLOGICAL SURVEY



APPENDIX C

APPENDIX C

EDR REPORT

The EDR-Radius Map
with GeoCheck™

Crowell Construction, Inc.
Crowell Construction, Inc.
Lumberton, NC 28358

Inquiry Number: 0132712.5r

August 27, 1996

Environmental
Data
Resources, Inc.

Creators of Toxicheck/®

The Source
For Environmental
Risk Management
Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

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Topographic Map	2
GeoCheck Summary	3
Overview Map	5
Detail Map	6
Map Summary - All Sites	7
Map Summary - Sites with higher or the same elevation as the Target Property	8
Map Findings	9
Orphan Summary	10

APPENDICES

GeoCheck Version 2.1	A1
Government Records Searched / Data Currency Tracking Addendum	A2

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer

This Report contains information obtained from a variety of public sources and EDR makes no representation or warranty regarding the accuracy, reliability, quality, or completeness of said information or the information contained in this report. The customer shall assume full responsibility for the use of this report.
No warranty of merchantability or of fitness for a particular purpose, expressed or implied, shall apply and EDR specifically disclaims the making of such warranties. In no event shall EDR be liable to anyone for special, incidental, consequential or exemplary damages. Copyright (c) 1996 by EDR. All rights reserved.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The search met the specific requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-94, or custom distances requested by the user.

The address of the subject property for which the search was intended is:

CROWELL CONSTRUCTION, INC.
LUMBERTON, NC 28358

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the subject property or within the ASTM E 1527-94 search radius around the subject property for the following Databases:

NPL:	National Priority List
Delisted NPL:	NPL Deletions
RCRIS-TSD:	Resource Conservation and Recovery Information System
State Haz. Waste:	Inactive Hazardous Sites Inventory
CERCLIS:	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP:	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS:	Corrective Action Report
SWF/LF:	List of Solid Waste Facility
LUST:	Incidents Management Database
UST:	Petroleum Underground Storage Tank Database
RAATS:	RCRA Administrative Action Tracking System
RCRIS-SQG:	Resource Conservation and Recovery Information System
RCRIS-LQG:	Resource Conservation and Recovery Information System
HMIRS:	Hazardous Materials Information Reporting System
PADS:	PCB Activity Database System
ERNS:	Emergency Response Notification System
FINDS:	Facility Index System
TRIS:	Toxic Chemical Release Inventory System
NPL Liens:	Federal Superfund Liens
TSCA:	Toxic Substances Control Act
MLTS:	Material Licensing Tracking System
RODS:	Records Of Decision
CONSENT:	Superfund (CERCLA) Consent Decrees

Unmapped (orphan) sites are not considered in the foregoing analysis.

Search Results:

Search results for the subject property and the search radius, are listed below:

Subject Property:

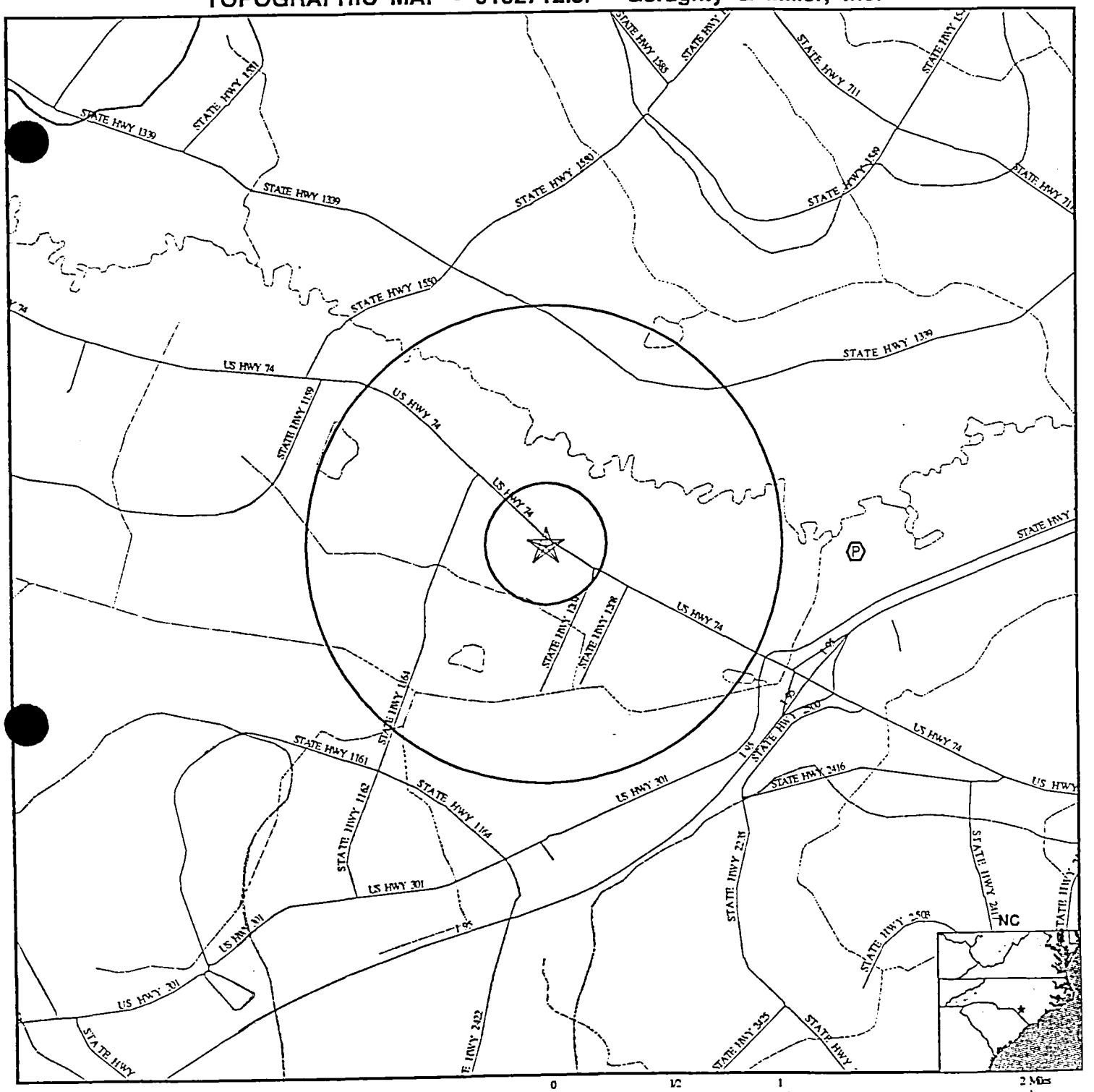
The subject property was not listed in any of the databases searched by EDR.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CARDINAL CHEMICAL	SHWS
WEST POINT PEPPERELL	SHWS
BEAR SWAMP LCID LANDFILL	SWF/LF
LUMBERTON, CITY OF	SWF/LF
DOT-ABANDONED STATION	LUST
HIGHWAY PATROL STA.-KAHN DR.	LUST
LUMBEE OIL CO.	LUST
NC FORESTRY SERVICE	LUST
TWIN MART CONV. STORE	LUST
ROBESON CO. BOARD OF EDUCATION	LUST
MID STATE OIL CO.-SUN OIL STA.	LUST
J P TAYLOR CO	UST
SUN DO 74-95	UST
FOX'S HOLSUM BAKERY INC	UST
CAPE FEAR CONSTRUCTION CO	UST
NOBBS AUTO & TRUCK PARTS	RCRIS-SQG

TOPOGRAPHIC MAP - 0132712.5r - Geraghty & Miller, Inc.



Source: US Geological Survey 1-Degree Digital Elevation Model
Compiled 09/15/92

N - Major Roads

N - Contour lines (25 foot interval unless otherwise shown)

N - Waterways

◎ - Earthquake epicenter, Richter 5 or greater.

(F)[S] - Closest well according to (F)ederal or (S)tate database in quadrant.

(P) - Closest public water supply well.

TARGET PROPERTY:	Cowell Construction, Inc.	CUSTOMER:	Geraghty & Miller, Inc.
ADDRESS:	Cowell Construction, Inc.	CONTACT:	Mr. Fred Rash
CITY/STATE/ZIP:	Lumberton NC 28358	INQUIRY #:	0132712.5r
LAT/LONG:	34.6089 / 79.1226	DATE:	August 27, 1996 6:33 pm

GEOCHECK VERSION 2.1
SUMMARY

GEOLOGIC AGE IDENTIFICATION†

Geologic Code:	IK3
Era:	Mesozoic
System:	Cretaceous
Series:	Washita Group

ROCK STRATIGRAPHIC UNIT†

Category:	Stratified Sequence

GROUNDWATER FLOW INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, including well data collected on nearby properties, regional groundwater flow information (from deep aquifers), or surface topography.‡

General Topographic Gradient:	General ENE
General Hydrogeologic Gradient:	No hydrogeologic data available.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property:	2434079-E1 SOUTHWEST LUMBERTON, NC

FEDERAL DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP	LITHOLOGY	DEPTH TO WATER TABLE
NO WELLS FOUND			

STATE DATABASE INFORMATION

NORTH CARLOLINA LOCATIONS OF RARE AND ENDANGERED SPECIES DATABASE:

ID	Class
NO RECORDS FOUND	

NORTH CAROLINA NATURAL AREAS DATABASE:

ID	Name
NO RECORDS FOUND	

PUBLIC WATER SUPPLY SYSTEM INFORMATION (EPA-FRDS)

Searched by Nearest Well.
NOTE: PWS System location is not always the same as well location.

PWS Name:	SUSSE CHALET LUMBERTON, NC 28358
Location Relative to TP:	1 - 2 Miles East
Well currently has or has had major violation(s):	No

† Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994)

‡ U.S. EPA Ground Water Handbook, Vol.I: Ground Water and Contamination, Office of Research and development EPA/625/6-90/016a Chapter 4, page 78, September 1990

GEOCHECK VERSION 2.1
SUMMARY

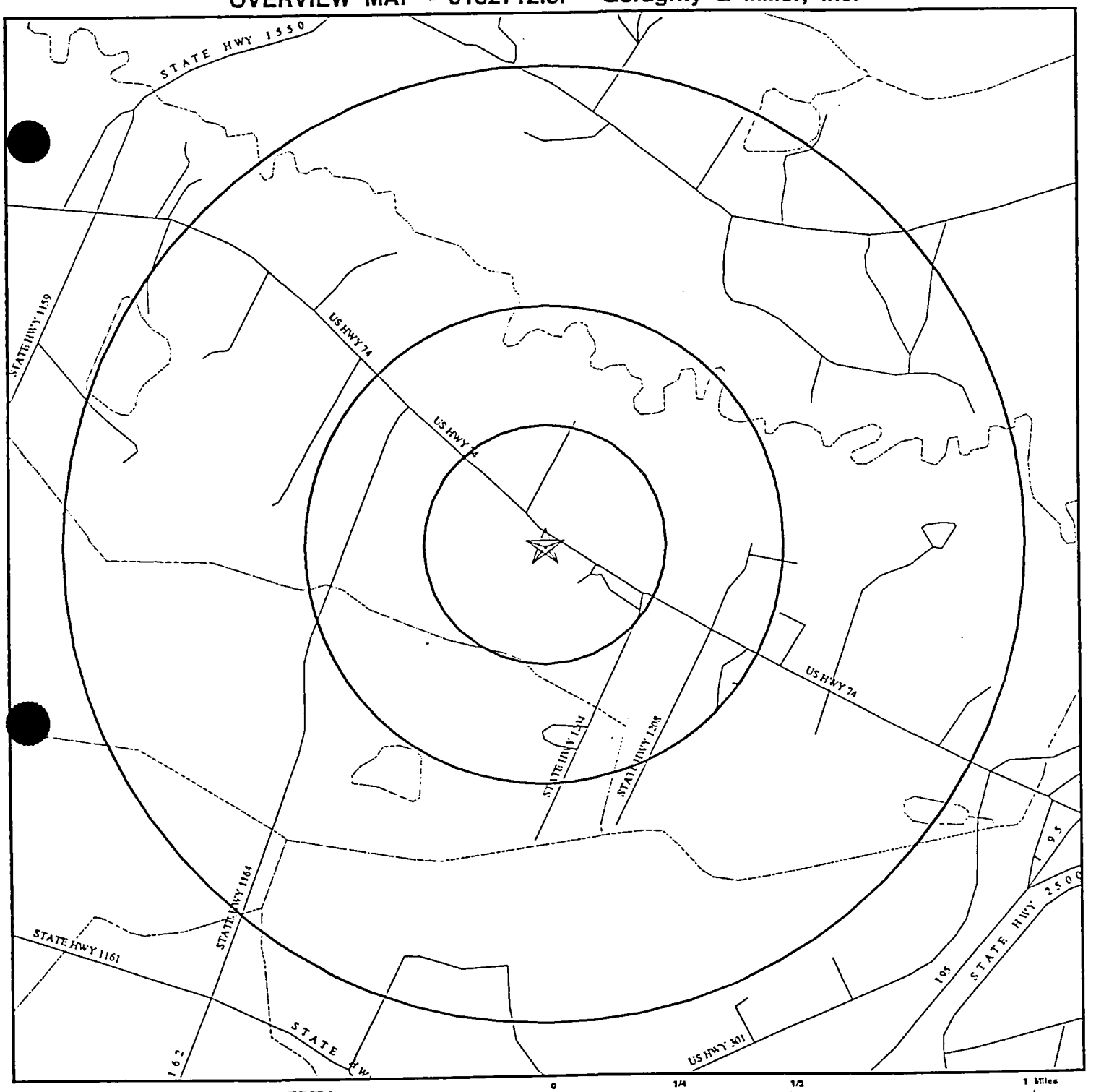
AREA RADON INFORMATION

Zip Code: 28358

Number of sites tested: 6

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.350 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

OVERVIEW MAP - 0132712.5r - Geraghty & Miller, Inc.



★ - Indicates TARGET PROPERTY.

▲ - Indicates sites at elevations higher than or equal to the target property.

◆ - Indicates sites at elevations lower than the target property.

- Coal Gasification Sites (if requested)

- National Priority List Sites

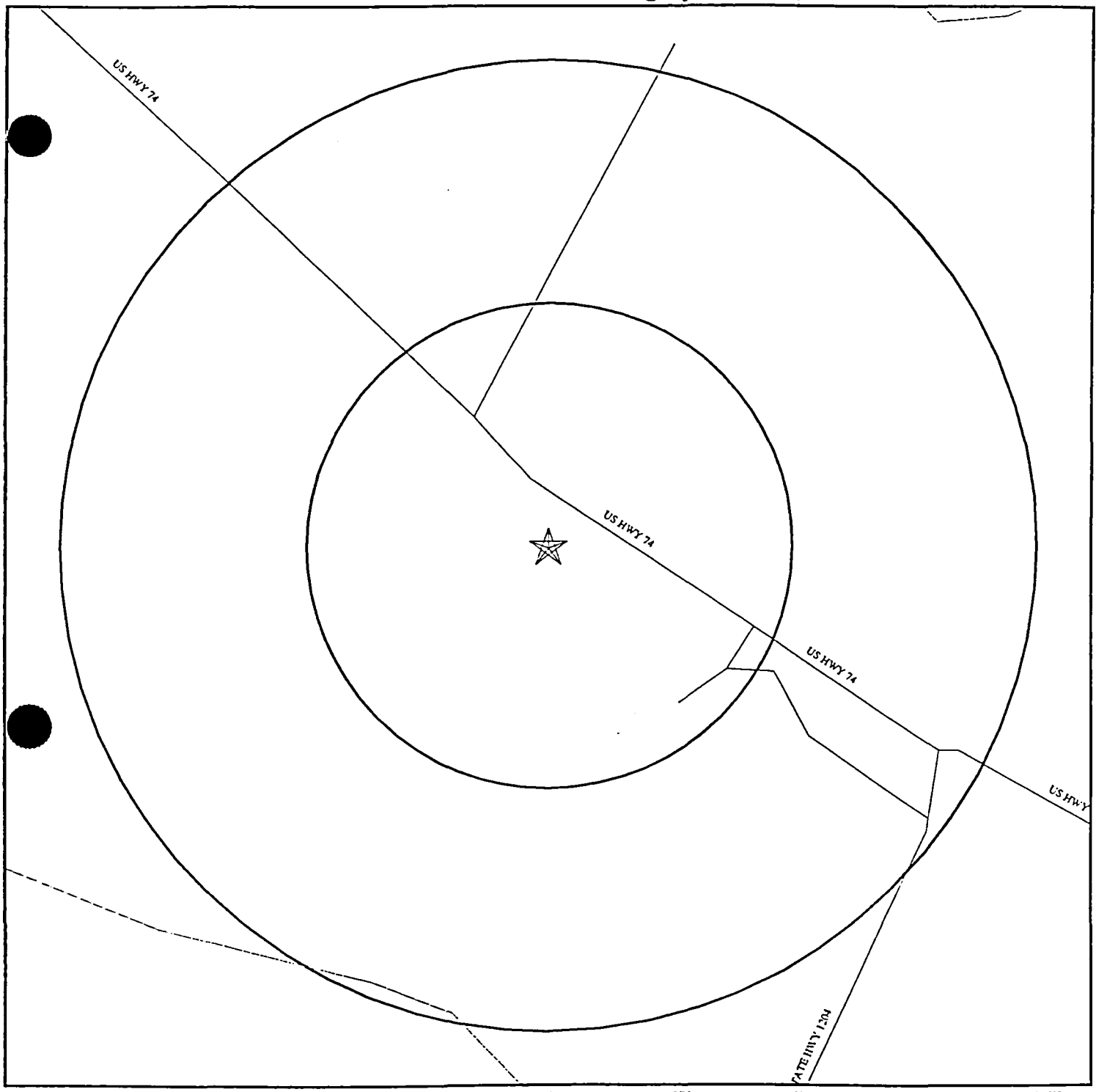
- Landfill Sites

- Power transmission lines (USGS DLG, 1993)

- Oil & Gas pipelines (USGS DLG, 1993)

TARGET PROPERTY:	Crowell Construction, Inc.	CUSTOMER:	Geraghty & Miller, Inc.
ADDRESS:	Crowell Construction, Inc.	CONTACT:	Mr. Fred Rash
CITY/STATE/ZIP:	Lumberton NC 28358	INQUIRY #:	0132712.5r
LAT/LONG:	34.6089 / 79.1226	DATE:	August 27, 1996 6:31 pm

DETAIL MAP - 0132712.5r - Geraghty & Miller, Inc.



★ - Indicates TARGET PROPERTY.

▲ - Indicates sites at elevations higher than or equal to the target property.

◆ - Indicates sites at elevations lower than the target property.

- Coal Gasification Sites (if requested)

- Sensitive Receptors

- National Priority List Sites

- Landfill Sites

- Power transmission lines (USGS DLG, 1993)

- Oil & Gas pipelines (USGS DLG, 1993)

TARGET PROPERTY:	Crowell Construction, Inc.	CUSTOMER:	Geraghty & Miller, Inc.
ADDRESS:	Crowell Construction, Inc.	CONTACT:	Mr. Fred Rash
CITY/STATE/ZIP:	Lumberton NC 28358	INQUIRY #:	0132712.5r
LAT/LONG:	34.6089 / 79.1226	DATE:	August 27, 1996 6:32 pm

MAP FINDINGS SUMMARY SHOWING ALL SITES

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
Coal Gas		N/A	N/A	N/A	N/A	N/A	N/A	N/A

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

MAP FINDINGS SUMMARY SHOWING ONLY SITES HIGHER THAN OR THE SAME ELEVATION AS TP

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		1.000	0	0	0	0	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
Coal Gas		N/A	N/A	N/A	N/A	N/A	N/A	N/A

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

Coal Gas Site Search: EDR does not presently have coal gas site information available in this state.

NO SITES FOUND

ORPH[illegible]UMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
LUMBERTON	S101428957	BEAR SWAMP LCID LANDFILL	S.R. 1549		SWF/LF	
LUMBERTON	S100442973	DOT-ABANDONED STATION	SR 1550 / SR 1574		LUST	9679
LUMBERTON	S100048179	HIGHWAY PATROL STA.-KAHN DR.	SR 1791		LUST	5287
LUMBERTON	S100442977	LUMBEE OIL CO.	HWY 211 EAST		LUST	7952
LUMBERTON	S101425654	CARDINAL CHEMICAL	NC 211 / NC 72		SHWS	
LUMBERTON	S101167462	NC FORESTRY SERVICE	SR 2235		LUST	4008
LUMBERTON	S101524244	TWIN MART CONV. STORE	HWY 41 / TARHEEL RD.		LUST	10805
LUMBERTON	S101714913	ROBESON CO. BOARD OF EDUCATION	HWY 72 / 71		LUST	14739
LUMBERTON	U000899774	J P TAYLOR CO	US 74 EAST	28358	UST	0-001476
LUMBERTON	1001079012	NOBBS AUTO & TRUCK PARTS	HWY 74 WEST	28358	RCRIS-SQG	
LUMBERTON	U003008405	SUN DO 74-95	HWY 74 WEST I-95 EXT 14	28358	UST	0-034381
LUMBERTON	S100298640	MID STATE OIL CO.-SUN OIL STA.	I 95 / HWY 74		LUST	7219
LUMBERTON	S101425659	WEST POINT PEPPERELL	CHESTNUT ST EXTN		SHWS	
LUMBERTON	S102009372	LUMBERTON, CITY OF	OFF S.R. 1531		SWF/LF	
LUMBERTON	U001186647	FOX'S HOLSUM BAKERY INC	OLD HIGHWAY 74 EAST	28358	UST	0-000947
LUMBERTON	U001198119	CAPE FEAR CONSTRUCTION CO	STARLIGHT DR	28358	UST	0-018745

GEOCHECK VERSION 2.1
PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest Well.

PWS SUMMARY:

PWS ID:	NC0378429	PWS Status:	Active	Distance from TP:	1 - 2 Miles
Date Initiated:	June / 1977	Date Deactivated:	Not Reported	Dir relative to TP:	East
PWS Name:	SUSSE CHALET LUMBERTON, NC 28358				

Addressee / Facility Type: System Owner/Responsible Party
Facility Name: JO QUINN OR MGR
PO BOX 1363
LUMBERTON, NC 28358

Addressee / Facility Type: System Owner/Responsible Party
Facility Name: SUSSE CHALET MOTOR LD NC INC
PO BOX 1363
LUMBERTON, NC 28358

Facility Latitude:	34 36 30	Facility Longitude:	079 06 00
Facility Latitude:	34 37 05	Facility Longitude:	079 00 32
City Served:	LUMBERTON		
Treatment Class:	Treated	Population Served:	101 - 500 Persons

Well currently has or has had major violation(s): No

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM RECORDS:

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA/NTIS
Telephone: 703-603-8904
CERCLIS: CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/31/96
Date Made Active at EDR: 06/03/96
Database Release Frequency: Monthly
Date of Data Arrival at EDR: 04/23/96
Elapsed ASTM days: 41
Date of Last EDR Contact: 07/17/96

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
ERNS: Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/95
Date Made Active at EDR: 02/19/96
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 01/26/96
Elapsed ASTM days: 24
Date of Last EDR Contact: 06/25/96

NPL: National Priority List
Source: EPA
Telephone: 703-603-8852
NPL: National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, it is EDR's policy to plot NPL sites greater than approximately 300 acres in size as areas (polygons). A polygon boundary is based upon EPA's defined Area of Impact (AOI) for the particular NPL site. The AOI may be the boundaries of the property, the boundaries as determined by the extent of plume migration, or other such boundaries as defined by EPA. Sites smaller in size are point-geocoded at the site's address.

Date of Government Version: 09/01/95
Date Made Active at EDR: 10/25/95
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 10/17/95
Elapsed ASTM days: 8
Date of Last EDR Contact: 06/19/96

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 703-308-7907
RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 05/31/96
Date Made Active at EDR: 07/17/96
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 06/10/96
Elapsed ASTM days: 37
Date of Last EDR Contact: 06/05/96

FEDERAL NON-ASTM RECORDS:

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: Varies
Database Release Frequency: Varies

Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: 09/01/95

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 703-308-7907
CORRACTS: CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 04/10/95
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 06/19/96
Date of Next Scheduled EDR Contact: 09/16/96

FINDS: Facility Index System
Source: EPA/NTIS
Telephone: 800-908-2493
FINDS: Facility Index System. FINDS contains both facility information and "pointers" to other sources that contain more detail. These include: RCRIS, PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]), CERCLIS, DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), FRDS (Federal Reporting Data System), SIA (Surface Impoundments), CICIS (TSCA Chemicals in Commerce Information System), PADS, RCRA-J (medical waste transporters/disposers), TRIS and TSCA.

Date of Government Version: 09/30/95
Database Release Frequency: Quarterly

Date of Last EDR Contact: 06/05/96
Date of Next Scheduled EDR Contact: 10/07/96

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
HMIRS: Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/95
Database Release Frequency: Annually

Date of Last EDR Contact: 07/29/96
Date of Next Scheduled EDR Contact: 10/28/96

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 02/13/96
Database Release Frequency: Quarterly

Date of Last EDR Contact: 07/15/96
Date of Next Scheduled EDR Contact: 10/14/96

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 202-564-4267
NPL LIENS: Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 06/25/96
Date of Next Scheduled EDR Contact: 08/26/96

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3992
PADS: PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/14/94
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 05/20/96
Date of Next Scheduled EDR Contact: 08/19/96

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RAATS: RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA.

Date of Government Version: 04/17/95
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 06/19/96
Date of Next Scheduled EDR Contact: 09/16/96

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0703
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 03/31/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 06/07/96
Date of Next Scheduled EDR Contact: 09/02/96

TRIS: Toxic Chemical Release Inventory System
Source: EPA/NTIS
Telephone: 202-260-2320
TRIS: Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/92
Database Release Frequency: Annually
Date of Last EDR Contact: 07/08/96
Date of Next Scheduled EDR Contact: 09/30/96

TSCA: Toxic Substances Control Act
Source: EPA/NTIS
Telephone: 202-260-1444
TSCA: Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site. USEPA has no current plan to update and/or re-issue this database.

Date of Government Version: 01/31/95
Database Release Frequency: Annually
Date of Last EDR Contact: 06/21/96
Date of Next Scheduled EDR Contact: 09/16/96

STATE OF NORTH CAROLINA ASTM RECORDS:

LUST: Incidents Management Database
Source: Department of Environment, Health & Natural Resources
Telephone: 919-733-1315
LUST: Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 04/01/96
Date Made Active at EDR: 06/06/96
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 04/26/96
Elapsed ASTM days: 41
Date of Last EDR Contact: 07/09/96

SHWS: Inactive Hazardous Sites Inventory
Source: Department of Environment, Health & Natural Resources
Telephone: 919-733-2801
SHWS: State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 03/26/96
Date Made Active at EDR: 06/06/96
Database Release Frequency: Annually

Date of Data Arrival at EDR: 05/13/96
Elapsed ASTM days: 24
Date of Last EDR Contact: 07/22/96

SWF/LF: List of Solid Waste Facility
Source: Department of Environment, Health & Natural Resources
Telephone: 919-733-0692
SWF/LF: Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Section 2004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/25/96
Date Made Active at EDR: 06/06/96
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 05/09/96
Elapsed ASTM days: 28
Date of Last EDR Contact: 05/06/96

UST: Petroleum Underground Storage Tank Database
Source: Department of Environment, Health & Natural Resources
Telephone: 919-733-1308
UST: Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 07/01/96
Date Made Active at EDR: 08/12/96
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 07/15/96
Elapsed ASTM days: 28
Date of Last EDR Contact: 07/10/96

Historical and Other Database(s)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered bythe report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

DELISTED NPL: Delisted NPL Sites
Source: EPA
Telephone: 703-603-8769
DELISTED NPL: The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

NFRAP: No Further Remedial Action Planned
Source: EPA/NTIS
Telephone: 703-416-0702
NFRAP: As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

FRDS: Federal Reporting Data System
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
FRDS provides information regarding public water supplies and their compliance with monitoring requirements, maximum contaminant levels (MCL's), and other requirements of the Safe Drinking Water Act of 1986.

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals who, due to their fragile immune systems, are deemed to be especially sensitive to environmental discharges. These typically include the elderly, the sick, and children. While the exact location of these sensitive receptors cannot be determined, EDR indicates those facilities, such as schools, hospitals, day care centers, and nursing homes, where sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1994 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams
Source: Federal Emergency Management Agency
Telephone: 202-646-2801
WATER DAMS: National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.

APPENDIX D

APPENDIX D

AERIAL PHOTOGRAPH

SITE
LOCATION

APPENDIX E

APPENDIX E

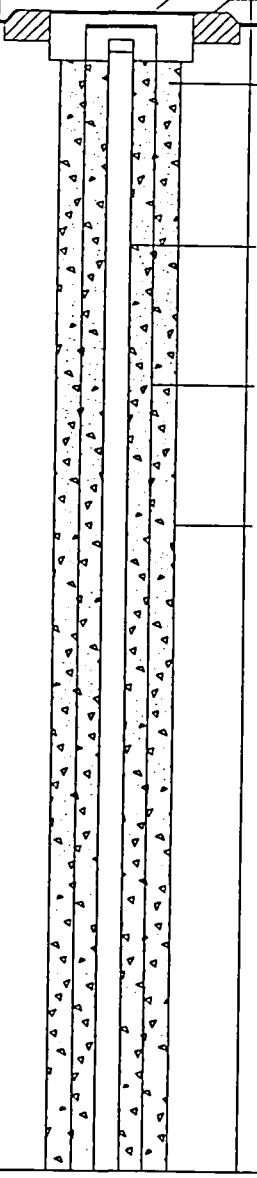
DRILL LOGS AND MONITOR-WELL CONSTRUCTION DETAILS

Project : North Carolina Department of Transportation
Project Location : Site #70 – Lumberton, North Carolina
Project Number : NC0360.212

MONITOR WELL 70DW-1
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled	11-06-96 TO 11-08-96	Logged By	W. Plekan
Checked By			
Drilling Method	Mud Rotary	Drill Bit Size/Type	
Top of Casing Elevation (ft msl)			
Drill Rig Type		Drilled By	Groundwater Protection
Total Depth Drilled (ft bls)	54.0		
Groundwater Level (ft bls)	First / Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA
Sampler Type			
Diameter of Hole (inches)	10	Diameter of Well (inches)	2 & 6
Type of Well Casing	6" Diameter Steel Casing	Screen Perforation	0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack	Type/Thickness of Seal(s)	Bentonite Pellets/2-ft
Comments			

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	Blows/ft	Lithologic Log	LITHOLOGIC DESCRIPTION	Well Construction Details	REMARKS
0					DRILLED WITH 10-IN MUD ROTARY TO 32.0-FT GROUTED UP HOLE WITH 6 5/8 GALVANIZED STEEL CASING IN PLACE.		12" Diameter Manhole; Concrete Pad; Portland/Bentonite Cement Grout; 2" Diameter PVC Well Casing; 6" Dia. Steel Well Casing; 10" Dia. Drilled Borehole
5							
10							
15							
20							
25							



GERAGHTY & MILLER INC.

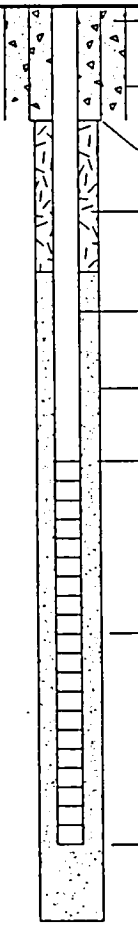
DRAFTER: A. W. | APPROVED: F. RASH | CHECKED: M. DWYER | DRAWING: 70DW-1 | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | DATE: 05FEB97

Project : North Carolina Department of Transportation **Project Location :** Site #70 – Lumberton, North Carolina **Project Number :** NC0360.212	**MONITOR WELL 70DW-1** **WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG**

Date(s) Drilled	11-06-96 TO 11-08-96	Logged By	W. Plekan	Checked By	
Drilling Method	Mud Rotary	Drill Bit Size/Type		Top of Casing Elevation (ft msl)	
Drill Rig Type		Drilled By	Groundwater Protection	Total Depth Drilled (ft bls)	54.0
Groundwater Level (ft bls)	First / Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type	
Diameter of Hole (inches)	10 / Diameter of Well (inches) 2 & 6	Type of Well Casing	6" Diameter Steel Casing	Screen Perforation	0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack	Type/Thickness of Seal(s)	Bentonite Pellets/2-ft		
Comments					

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	SAMPLES: Blows/ft	SAMPLES: Lithologic Log	LITHOLOGIC DESCRIPTION
30					GREY, MOIST, HARD CLAY.
					LIGHT GREY, MOIST, VERY STIFF CLAY.
35					LIGHT TO DARK GREY, MOIST, HARD CLAY, TRACE FINE SAND.
40					41.0-FT: OLIVE GREEN, GRAY, MOIST, VERY STIFF CLAY, LITTLE FINE TO MEDIUM SAND, TRACE COARSE SAND, TRACE MICA.
					OLIVE GREEN GREY.
45					45.0-FT: LIGHT GREY, MOIST TO WET, FINE TO MEDIUM SAND, TRACE SILT, TRACE CLAY.
					LIGHT GREY.
					LIGHT GREY, WET, DENSE, FINE TO MEDIUM SAND, TRACE SILT.
50					51.0-FT: GREY, DRY TO MOIST, HARD, CLAY, LITTLE SILT, TRACE FINE SAND.
					DARK GREY, DRY TO MOIST HARD CLAY.
55					
60					

Well Construction Details



REMARKS

- Portland/Bentonite Cement Grout
- 10" Dia. Drilled Borehole
- 6" Dia. Steel Well Casing to 33.0'
- Bentonite Pellets
- 2" Diameter PVC Well Casing
- 4" Dia. Drilled Borehole
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- Bottom of Screen
- Bottom of Well

DRAFTER: A. WARR | APPROVED: F. RASH | CHECKED: M. DWYER | DRAWING: B | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | : 05FEB97

GERAGHTY & MILLER INC.

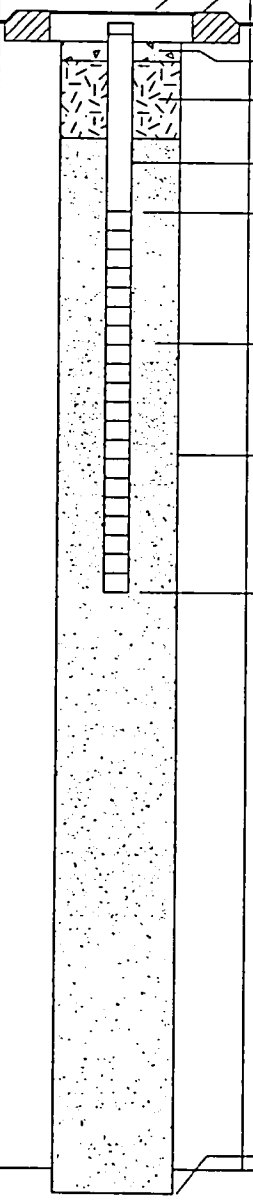
Project : North Carolina Department of Transportation
Project Location : Site #70 – Lumberton, North Carolina
Project Number : NC0360.022

MONITOR WELL 70MW-1
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled	11-06-96	Logged By	W. Plekan	Checked By	
Drilling Method	Hollow Stem Auger	Drill Bit Size/Type		Top of Casing Elevation (ft msl)	
Drill Rig Type		Drilled By	Groundwater Protection	Total Depth Drilled (ft bls)	32.0
Groundwater Level (ft bls)	First / Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type	
Diameter of Hole (inches)	8	Diameter of Well (inches)	2	Type of Well Casing	2" Diameter PVC Casing	Screen Perforation	0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack	Type/Thickness of Seal(s)	Bentonite Pellets/2.0-ft		
Comments					

Depth ft bls	Elevation ft msl	Sample Interval	Blows/ft	Lithologic Log	LITHOLOGIC DESCRIPTION
0					SAND AND GRAVEL FILL – POSTHOLE DIG.
5					DARK GREY, MOIST, VERY DENSE, FINE TO COARSE SAND, SOME FINE TO MEDIUM GRAVEL, TRACE SILT, TRACE COARSE GRAVEL.
					7.4-FT: DARK GREY/BLACK TO LIGHT BROWN/GREY MOIST TO WET, VERY DENSE FINE TO MEDIUM SAND.
					LIGHT BROWN, WET DENSE FINE TO MEDIUM SAND TRACE COARSE SAND.
10					9.2-FT: LIGHT BROWN TO GREY WHITE, WET, MODERATELY DENSE, FINE TO MEDIUM SAND.
					LIGHT BROWN WITH GREY TO GREY/WHITE, WET, MODERATELY DENSE FINE TO MEDIUM SAND.
15					15.0-FT: LIGHT GREY WET, DENSE, FINE TO MEDIUM SAND.
					VERY DENSE, TRACE FINE GRAVEL, COARSE SAND.
					19.6-FT: TRACE SILT, TRACE CLAY.
20					LOOSE FINE TO COARSE SAND.
					LIGHT GREY, WET, DENSE, FINE TO MEDIUM SAND, TRACE CLAY, LIGHT BROWN TINTING.
					MODERATELY DENSE.
25					25.5-FT: LIGHT BROWN DENSE FINE TO MEDIUM SAND, LITTLE COARSE SAND.
30					30.5-FT: LIGHT GREY, MOIST, VERY STIFF CLAY.

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 8" Dia. Drilled Borehole
- Bottom of Screen
- Bottom of Well

GERAGHTY & MILLER INC.

Sheet 1 of 1

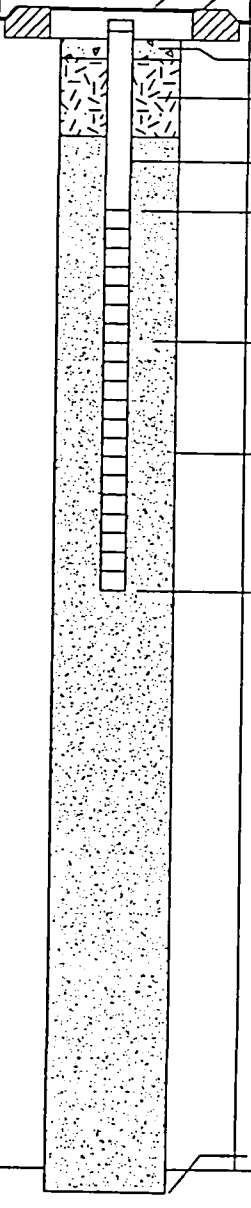
DRAFTER: A. WARR | CHECKED: K. TRIMBERGER | APPROVED: | DRAWING: | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | DWG DATE: 06JAN97

Project : North Carolina Department of Transportation **Project Location :** Site #70 – Lumberton, North Carolina **Project Number :** NC0360.022	**MONITOR WELL 70MW-2** **WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG**

Date(s) Drilled	11-06-96	Logged By	W. Plekan	Checked By	
Drilling Method	Hollow Stem Auger	Drill Bit Size/Type		Top of Casing Elevation (ft msl)	
Drill Rig Type		Drilled By	Groundwater Protection	Total Depth Drilled (ft bls)	32.0
Groundwater Level (ft bls)	First / Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type	
Diameter of Hole (inches)	8 / Diameter of Well (inches) 2	Type of Well Casing	2" Diameter PVC Casing	Screen Perforation	0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack	Type/Thickness of Seal(s)	Bentonite Pellets/2.0-ft		
Comments					

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	Blows/ft	Lithologic Log	LITHOLOGIC DESCRIPTION
0					SAND AND GRAVEL FILL – POSTHOLE DIGGER.
5					LIGHT BROWN TO YELLOW/ORANGE, MOIST TO WET MODERATELY DENSE, FINE TO MEDIUM SAND, LITTLE SILT.
					7.0-FT: LIGHT BROWN TO LIGHT GREY, WET, MODERATELY DENSE, FINE TO MEDIUM SAND.
10					FEW ALTERNATING LARGE 2-FT TO 3-FT THICK LIGHT BROWN TO LIGHT GREY (FROM 8.8' TO 10.8')
					10.9-FT: LIGHT GREY, WET MODERATELY DENSE, FINE TO MEDIUM SAND, BROWN TINT (FROM 11.6' TO 13.6')
					13.6-FT: LIGHT GREY/WHITE FINE TO MEDIUM WET, MODERATELY DENSE SAND.
15					
					LIGHT GREY, WET, DENSE, FINE TO MEDIUM SAND WITH BROWN TINT.
					MODERATELY DENSE.
20					21.4-FT TO 21.7-FT: BROWN, WET, MODERATELY DENSE, FINE TO MEDIUM SAND, TRACE SILT, TRACE ORGANICS, ROOTS.
					LIGHT GREY WITH BROWN TINT, WET, MODERATELY DENSE FINE TO MEDIUM SAND.
25					
					– LOOSE.
					29.5-FT: LIGHT GREY, MODERATELY DENSE, STIFF WET, CLAY. B.O.B. AT 32.0-FT.

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 8" Dia. Drilled Borehole
- Bottom of Screen
- Bottom of Well

GERAGHTY & MILLER INC.

Sheet 1 of 1

DRAFTER: A. W. | CHECKED: K. TRIMBERGER | APPROVED: | DRAWING: MW-2 | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | DATE: 06JAN97

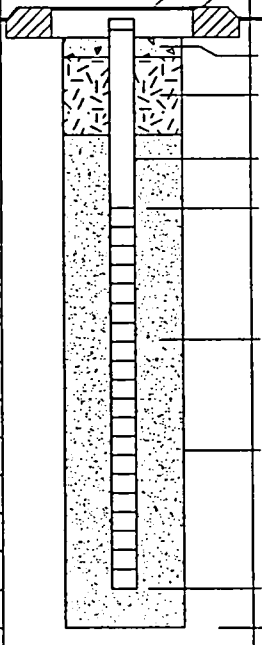
Project: North Carolina Department of Transportation
Project Location: Site #70 – Lumberton, North Carolina
Project Number: NC0360.022

MONITOR WELL 70MW-3
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled	11-07-96		Logged By	W. Plekan	Checked By
Drilling Method	Hollow Stem Auger		Drill Bit Size/Type		Top of Casing Elevation (ft msl)
Drill Rig Type			Drilled By	Groundwater Protection	Total Depth Drilled (ft bls) 16.0
Groundwater Level (ft bls)	First	Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type
Diameter of Hole (inches)	8	Diameter of Well (inches) 2	Type of Well Casing	2" Diameter PVC Casing	Screen Perforation 0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack		Type/Thickness of Seal(s)	Bentonite Pellets/2.0-ft	
Comments					

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	SAMPLES: Blows/ft	SAMPLES: Lithologic Log	LITHOLOGIC DESCRIPTION
0					BROWN/BLACK FINE TO MEDIUM SAND AND GRAVEL FILL.
5					DARK BROWN, MOIST TO WET, MODERATELY DENSE, FINE TO MEDIUM SAND, LITTLE SILT.
					LIGHT BROWN WITH GREYS, WET, DENSE, FINE TO MEDIUM SAND, TRACE SILT, TRACE CLAY.
10					9.0-FT: LIGHT GREY, MEDIUM TO LIGHT BROWN, WET, FINE TO MEDIUM SAND, TRACE COARSE SAND, TRACE SILT. 11.5-FT TO 11.8-FT: DENSE FINE TO MEDIUM SAND, TRACE SILT, TRACE CLAY. 11.8-FT: LIGHT BROWN, MEDIUM TO LIGHT GREY, WET.
15					LIGHT BROWN, WET, MODERATELY DENSE, FINE TO MEDIUM SAND.
20					
25					
30					

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 8" Dia. Drilled Borehole
- Bottom of Screen
- Bottom of Well

Sheet 1 of 1

GERAGHTY & MILLER INC.

DRAFTER: A. WARRE | APPROVED: | CHECKED: K. TRIMBERGER | DRAWING: 3 | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | DATE: 06JAN97

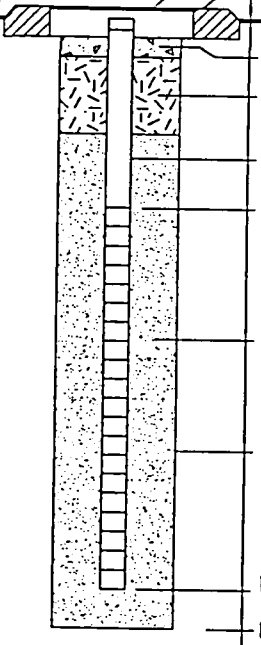
Project : North Carolina Department of Transportation
Project Location : Site #70 – Lumberton, North Carolina
Project Number : NC0360.022

MONITOR WELL 70MW-4
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled	11-07-96	Logged By	W. Plekan	Checked By	
Drilling Method	Hollow Stem Auger	Drill Bit Size/Type		Top of Casing Elevation (ft msl)	
Drill Rig Type		Drilled By	Groundwater Protection	Total Depth Drilled (ft bls)	16.0
Groundwater Level (ft bls)	First / Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type	
Diameter of Hole (inches)	8 / Diameter of Well (inches) 2	Type of Well Casing	2" Diameter PVC Casing	Screen Perforation	0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack	Type/Thickness of Seal(s)	Bentonite Pellets/2.0-ft		
Comments					

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	Blows/ft	Lithologic Log	LITHOLOGIC DESCRIPTION
0					BROWN SAND AND GRAVEL – POSTHOLE DIGGER.
5					LIGHT BROWN TO YELLOW/ORANGE, MOIST, MODERATELY DENSE, FINE TO MEDIUM SAND, LITTLE SILT.
					6.5-FT: WET.
10					MAINLY YELLOW/ORANGE, SOME LIGHT BROWN, WET, FINE TO MEDIUM SAND, TRACE COARSE SAND.
					LIGHT BROWN.
					13.5-FT: LIGHT GREY INTO YELLOW/ORANGE, FINE TO MEDIUM SAND, LITTLE SILT, TRACE CLAY, TRACE WOOD.
15					LIGHT BROWN TO YELLOW/ORANGE WET, FINE TO MEDIUM MODERATELY DENSE SAND.
20					
25					

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 8" Dia. Drilled Borehole
- Bottom of Screen
- Bottom of Well

DRAFTER: A. WA[illegible] | CHECKED: K. TRIMBERGER | APPROVED: | DRAWING: MW-4 | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | DWG DATE: 06JAN97

GERAGHTY & MILLER INC.

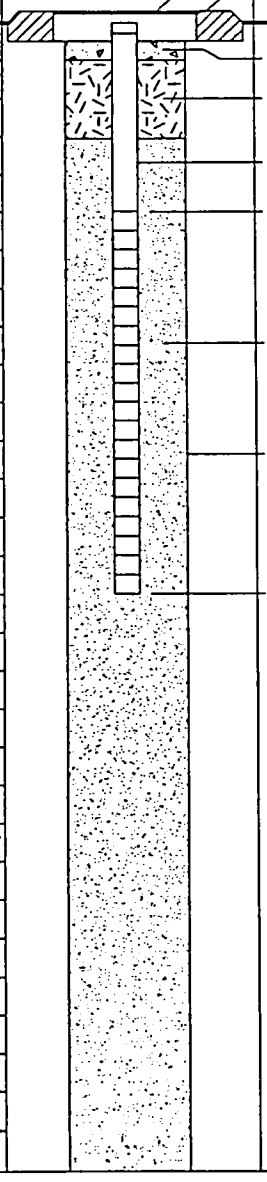
Project : North Carolina Department of Transportation
Project Location : Site #70 – Lumberton, North Carolina
Project Number : NC0360.212

MONITOR WELL 70MW-5
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled	11-05-96 to 11-06-96		Logged By	W. Plekan	Checked By
Drilling Method	Hollow Stem Auger		Drill Bit Size/Type		Top of Casing Elevation (ft msl)
Drill Rig Type			Drilled By	Groundwater Protection	Total Depth Drilled (ft bls) 30.0
Groundwater Level (ft bls)	First	Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type
Diameter of Hole (inches)	8	Diameter of Well (inches) 2	Type of Well Casing	2" Diameter PVC Casing	Screen Perforation 0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack		Type/Thickness of Seal(s)	Bentonite Pellets/2.0-ft	
Comments					

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	Blows/ft	Lithologic Log	LITHOLOGIC DESCRIPTION
0					SAND AND GRAVEL FILL – POSTHOLE DIGGER.
5					LIGHT BROWN, MOIST, STIFF SILT, LITTLE FINE TO COARSE SAND, TRACE CLAY.
					7.0-FT: LIGHT BROWN WITH YELLOW TINT, WET, MODERATELY DENSE, FINE TO MEDIUM SAND, TRACE SILT, TRACE COARSE SAND.
					9.0-FT: MULTICOLORED LAYERS: YELLOW, BROWN, TAN AND ORANGE.
10					LIGHT BROWN LOOSE FINE TO MEDIUM SAND.
					LIGHT BROWN MODERATELY DENSE FINE TO MEDIUM SAND, WET, LITTLE COARSE SAND.
					13.1-FT TO 13.7-FT: BROWN TO GREY FINE TO LIGHT GREY, WET, LOOSE, FINE TO MEDIUM SAND WITH BROWN TINT.
15					MODERATELY DENSE.
					19.1-FT TO 19.3-FT: VERY LOOSE WET, FINE TO MEDIUM SAND, TRACE SILT, DARK GREY CLAY LENSES.
20					19.7-FT: DARK BROWN MOIST, STIFF CLAY, TRACE FINE SAND, TRACE ORGANICS.
					LIGHT GREY WITH BROWN, WET, MODERATELY DENSE FINE TO MEDIUM SAND.
					LIGHT GREY WITH BROWN TINT, WET, MODERATELY DENSE, FINE TO MEDIUM SAND, TRACE COARSE SAND.
25					25.8-FT TO 26.0-FT: LIGHT GREY TO LIGHT BROWN, TRACE CLAY.
					GREY, MOIST, STIFF CLAY.
30					

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 8" Dia. Drilled Borehole
- Bottom of Screen
- Bottom of Well

GERAGHTY & MILLER INC.

Sheet 1 of 1

DRAFTER: A. WARR | CHECKED: K. TRIMBERGER | APPROVED: | DRAWING: | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | 06JAN97 | DWG

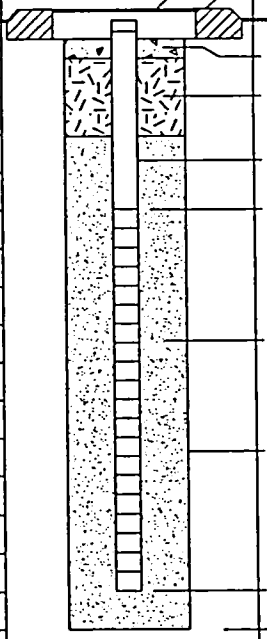
Project : North Carolina Department of Transportation
Project Location : Site #70 – Lumberton, North Carolina
Project Number : NC0360.022

MONITOR WELL 70MW-6
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled	11-07-96	Logged By	W. Plekan	Checked By	
Drilling Method	Hollow Stem Auger	Drill Bit Size/Type		Top of Casing Elevation (ft msl)	
Drill Rig Type		Drilled By	Groundwater Protection	Total Depth Drilled (ft bls)	16.0
Groundwater Level (ft bls)	First / Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type	
Diameter of Hole (inches)	8	Diameter of Well (inches)	2	Screen Perforation	0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack	Type of Well Casing	2" Diameter PVC Casing		
		Type/Thickness of Seal(s)	Bentonite Pellets/2.0-ft		
Comments					

Depth ft bls	Elevation ft msl	Sample Interval	Blows/ft	Lithologic Log	LITHOLOGIC DESCRIPTION
0					SAND AND GRAVEL FILL – POSTHOLE DIGGER.
5					DARK BROWN, GREY & BLACK, VERY DENSE, FINE TO MEDIUM SAND, SOME SILT.
					LIGHT BROWN, WITH YELLOW AND GREY, MOIST TO WET, FINE TO MEDIUM SAND, SOME SILT.
					LIGHT GREY, WET, MODERATELY DENSE, FINE TO MEDIUM SAND, TRACE SILT, TRACE CLAY.
10					LIGHT GREY, SOME LIGHT BROWN COLORING, WET, MODERATELY DENSE, SAND.
					WET, VERY DENSE FINE TO MEDIUM SAND.
15					LIGHT BROWN, WET, MODERATELY DENSE, FINE TO MEDIUM SAND.
20					
25					
30					

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 8" Dia. Drilled Borehole
- Bottom of Screen
- Bottom of Well

DRAFTER: A. WARREN | CHECKED: K. TRIMBERGER | APPROVED: | DRAWING: M-6 | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | DWG DATE: 06JAN97

Sheet 1 of 1

GERAGHTY & MILLER INC.

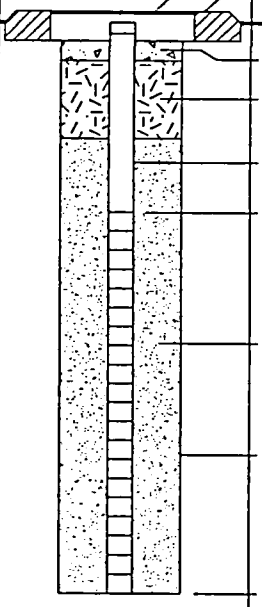
Project : North Carolina Department of Transportation
Project Location : Site #70 – Lumberton, North Carolina
Project Number : NC0360.212

MONITOR WELL 70MW-7
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled			Logged By	MPD	Checked By
Drilling Method	Hollow Stem Auger		Drill Bit Size/Type		Top of Casing Elevation (ft msl)
Drill Rig Type			Drilled By	McCall Brothers	Total Depth Drilled (ft bls) 15.0
Groundwater Level (ft bls)	First	Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type Split-Spoon
Diameter of Hole (inches)	6	Diameter of Well (inches) 2	Type of Well Casing	2" Diameter PVC Casing	Screen Perforation 0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack		Type/Thickness of Seal(s)	Bentonite Pellets/2.0-ft	
Comments					

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	SAMPLES: Blows/ft	SAMPLES: Lithologic Log	LITHOLOGIC DESCRIPTION
0					BROWN, GREY SANDS, COARSE.
5					BROWN, GREY SANDS, COARSE.
10					BROWN, GREY SANDS, FINE GRAVELS.
15					BROWN, GREY SANDS, WET, COARSE.
20					
25					

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 6" Dia. Drilled Borehole
- Bottom of Screen & Bottom of Well

DRAFTER: A. WAR[illegible] | CHECKED: K. TRIMBERGER | APPROVED: | DRAWING: [illegible]W-7 | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | DWG. DATE: 06JAN97

GERAGHTY & MILLER INC.

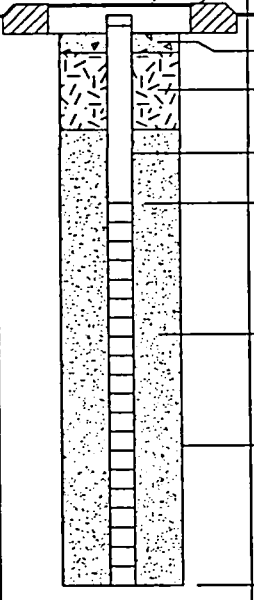
Project : North Carolina Department of Transportation
Project Location : Site #70 – Lumberton, North Carolina
Project Number : NC0360.212

MONITOR WELL 70MW-8
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled		Logged By MPD	Checked By
Drilling Method Hollow Stem Auger		Drill Bit Size/Type	Top of Casing Elevation (ft msl)
Drill Rig Type		Drilled By McCall Brothers	Total Depth Drilled (ft bls) 15.0
Groundwater Level (ft bls)	First / Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type Split-Spoon
Diameter of Hole (inches) 6	Diameter of Well (inches) 2	Type of Well Casing 2" Diameter PVC Casing	Screen Perforation 0.010-Slot
Type of Sand Pack Silica Sand Filter Pack		Type/Thickness of Seal(s) Bentonite Pellets/2.0-ft	
Comments			

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	Blows/ft	Lithologic Log	LITHOLOGIC DESCRIPTION
0					GREY, BROWN SANDS, COARSE GRAVELS.
5					GREY, BROWN, SANDS, COARSE.
10					GREY, BROWN SANDS, COARSE.
15					GREY, BROWN, SANDS, COARSE.
20					
25					
30					

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 6" Dia. Drilled Borehole
- Bottom of Screen & Bottom of Well

Sheet 1 of 1

GERAGHTY & MILLER INC.

DRAFTER: A. WARREN | CHECKED: K. TRIMBERGER | APPROVED: | DRAWING: | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | 06JAN97 | DWG

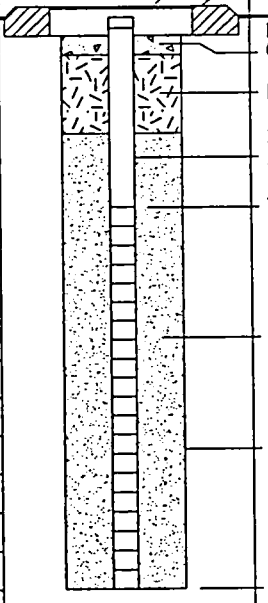
Project : North Carolina Department of Transportation
Project Location : Site #70 – Lumberton, North Carolina
Project Number : NC0360.212

MONITOR WELL 70MW-9
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled			Logged By MPD		Checked By
Drilling Method Hollow Stem Auger			Drill Bit Size/Type		Top of Casing Elevation (ft msl)
Drill Rig Type			Drilled By McCall Brothers		Total Depth Drilled (ft bls) 15.0
Groundwater Level (ft bls)	First	Completion 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type Split-Spoon
Diameter of Hole (inches) 6	Diameter of Well (inches) 2		Type of Well Casing 2" Diameter PVC Casing		Screen Perforation 0.010-Slot
Type of Sand Pack Silica Sand Filter Pack			Type/Thickness of Seal(s) Bentonite Pellets/2.0-ft		
Comments					

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	SAMPLES: Blows/ft	SAMPLES: Lithologic Log	LITHOLOGIC DESCRIPTION
0					GREY, BROWN SANDS.
5					BROWN, GREY, SANDS, COARSE.
10					GREY, BROWN SANDS, COARSE WET.
15					GREY, SANDS, COARSE.
20					
25					
30					

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 6" Dia. Drilled Borehole
- Bottom of Screen & Bottom of Well

Sheet 1 of 1

GERAGHTY & MILLER INC.

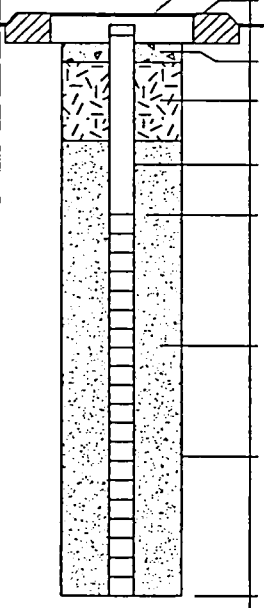
DRAFTER: A. WARREN | CHECKED: K. TRIMBERGER | APPROVED: | DRAWING: MY | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | DWG D 06JAN97

Project : North Carolina Department of Transportation **Project Location :** Site #70 – Lumberton, North Carolina **Project Number :** NC0360.212	**MONITOR WELL 70MW-10** **WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG**

Date(s) Drilled				Logged By	MPD		Checked By
Drilling Method	Hollow Stem Auger			Drill Bit Size/Type			Top of Casing Elevation (ft msl)
Drill Rig Type				Drilled By	McCall Brothers		Total Depth Drilled (ft bls) 15.0
Groundwater Level (ft bls)	First	Completion	24 Hours	Number of Samples	Disturbed: NA	Undisturbed: NA	Sampler Type Split-Spoon
Diameter of Hole (inches)	6	Diameter of Well (inches)	2	Type of Well Casing	2" Diameter PVC Casing		Screen Perforation 0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack			Type/Thickness of Seal(s)	Bentonite Pellets/2.0-ft		
Comments							

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	SAMPLES: Blows/ft	SAMPLES: Lithologic Log	LITHOLOGIC DESCRIPTION
0					BROWN SANDS, COARSE.
5					BROWN, GREY, SANDS.
10					GREY, BROWN SANDS, COARSE.
15					GREY, SANDS, COARSE, WET.
20					
25					
30					

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 6" Dia. Drilled Borehole
- Bottom of Screen & Bottom of Well

DRAFTER: A. WARRE | CHECKED: K. TRIMBERGER | APPROVED: | DRAWING: MW-10 | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | DWG DATE: 06JAN97

GERAGHTY & MILLER INC.

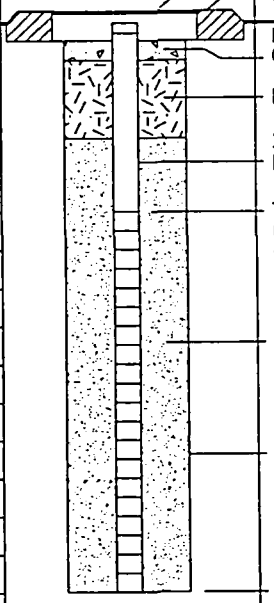
Project : North Carolina Department of Transportation
Project Location : Site #70 – Lumberton, North Carolina
Project Number : NC0360.212

MONITOR WELL 70MW-11
WELL CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG

Date(s) Drilled			Logged By	MPD	Checked By
Drilling Method	Hollow Stem Auger		Drill Bit Size/Type		Top of Casing Elevation (ft msl)
Drill Rig Type			Drilled By	McCall Brothers	Total Depth Drilled (ft bls) 15.0
Groundwater Level (ft bls)	First	Completion / 24 Hours	Number of Samples	Disturbed: NA / Undisturbed: NA	Sampler Type Split-Spoon
Diameter of Hole (inches)	6	Diameter of Well (inches) 2	Type of Well Casing	2" Diameter PVC Casing	Screen Perforation 0.010-Slot
Type of Sand Pack	Silica Sand Filter Pack		Type/Thickness of Seal(s)	Bentonite Pellets/2.0-ft	
Comments					

Depth ft bls	Elevation ft msl	SAMPLES: Sample Interval	SAMPLES: Blows/ft	SAMPLES: Lithologic Log	LITHOLOGIC DESCRIPTION
0					GREY, BROWN SANDS, GRAVELS.
5					BROWN, GREY, SANDS.
10					GREY, SANDS, COARSE.
15					BROWNISH, GREY, SANDS, COARSE.
20					
25					
30					

Well Construction Details



REMARKS

- 12" Diameter Manhole
- Concrete Pad
- Portland/Bentonite Cement Grout
- Bentonite Pellets
- 2" Dia., Sch. 40 PVC Well Casing
- Top of 2" Dia. PVC, 10-Slot Well Screen
- Sand Filter Pack
- 6" Dia. Drilled Borehole
- Bottom of Screen & Bottom of Well

DRAFTER: A. WARRE | APPROVED: | CHECKED: K. TRIMBERGER | DRAWING: | FILE NO.: NCDOT | PRJCT NO.: NC0360.212 | 06JAN97 | DWG

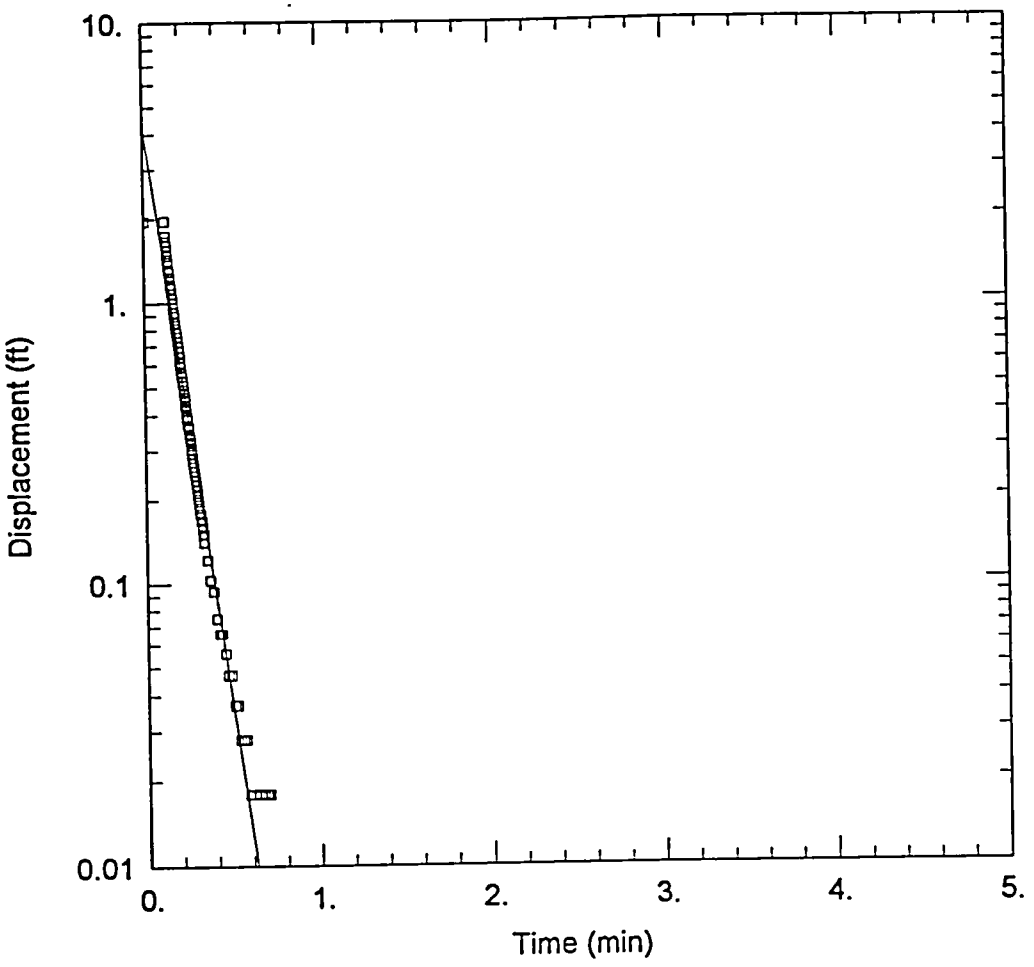
Sheet 1 of 1

GERAGHTY & MILLER INC.

APPENDIX F

APPENDIX F

IN-SITU HYDRAULIC CONDUCTIVITY TESTS



MW5 SLUG OUT

Data Set: G:\APROJECT\NCDOT\NC0360.212\SLUGTEST\MW-5OUT.AQT
Date: 02/07/97 Time: 16:42:39

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.212
Test Well: MW-5
Test Date: 11/12/96

AQUIFER DATA

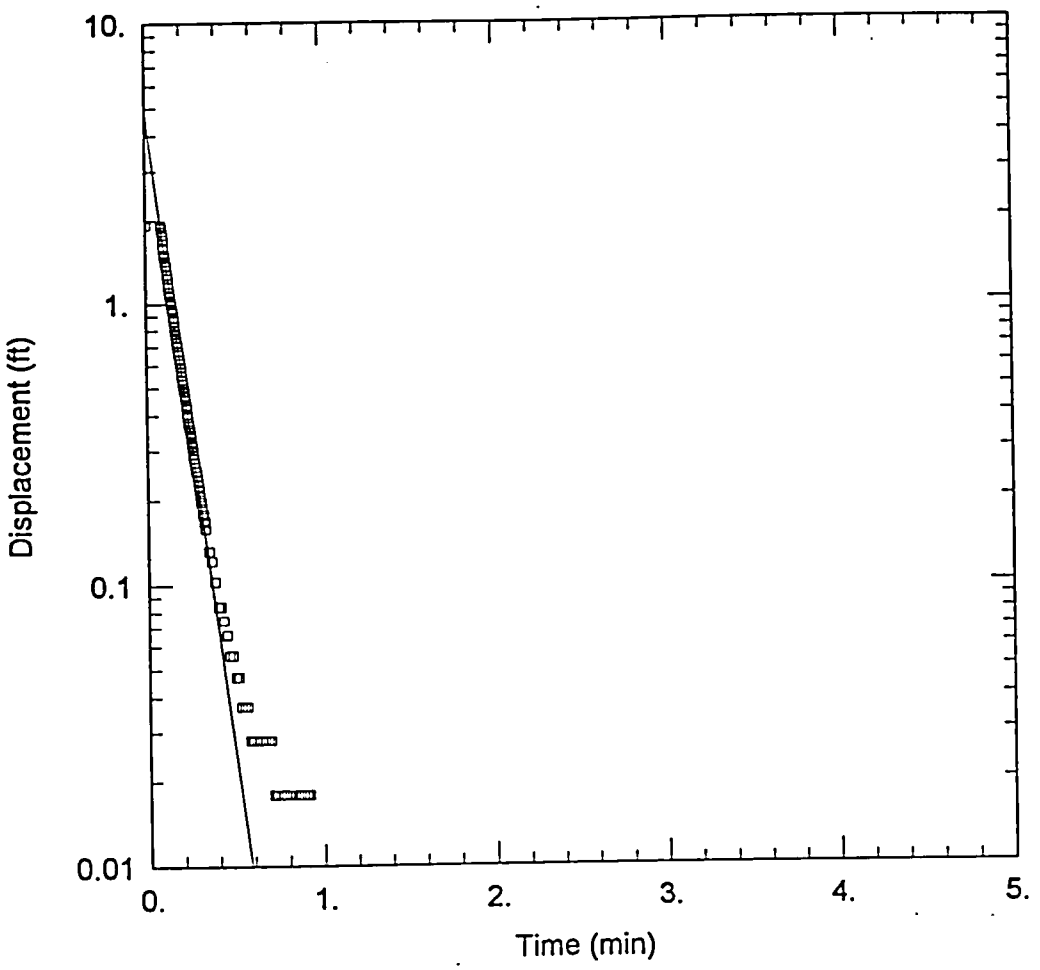
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 1.963 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 8.4 ft
Wellbore Radius: 0.333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003821 cm/sec
y0 = 4.217 ft



MW1 SLUG OUT

Data Set: G:\APROJECT\NCDOT\NC0360.212\SLUGTEST\MW-1OUT.AQT
Date: 02/07/97 Time: 16:30:46

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.212
Test Well: MW-1
Test Date: 11/12/96

AQUIFER DATA

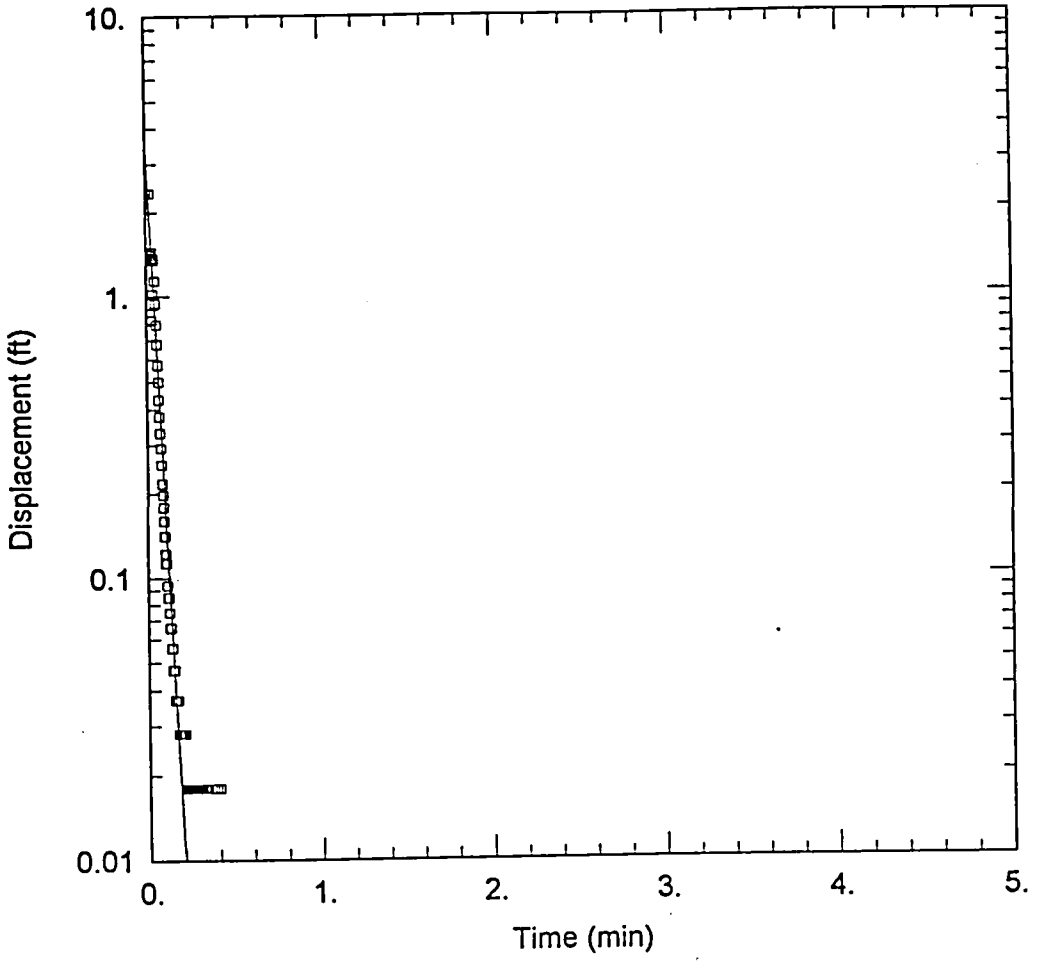
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 1.925 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 6.54 ft
Wellbore Radius: 0.333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003829 cm/sec
y0 = 4.755 ft



MW2 SLUG OUT

Data Set: G:\APROJECT\NCDOT\NC0360.212\SLUGTEST\MW-2OUT.AQT
Date: 02/07/97 Time: 16:35:57

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.212
Test Well: MW-2
Test Date: 11/11/96

AQUIFER DATA

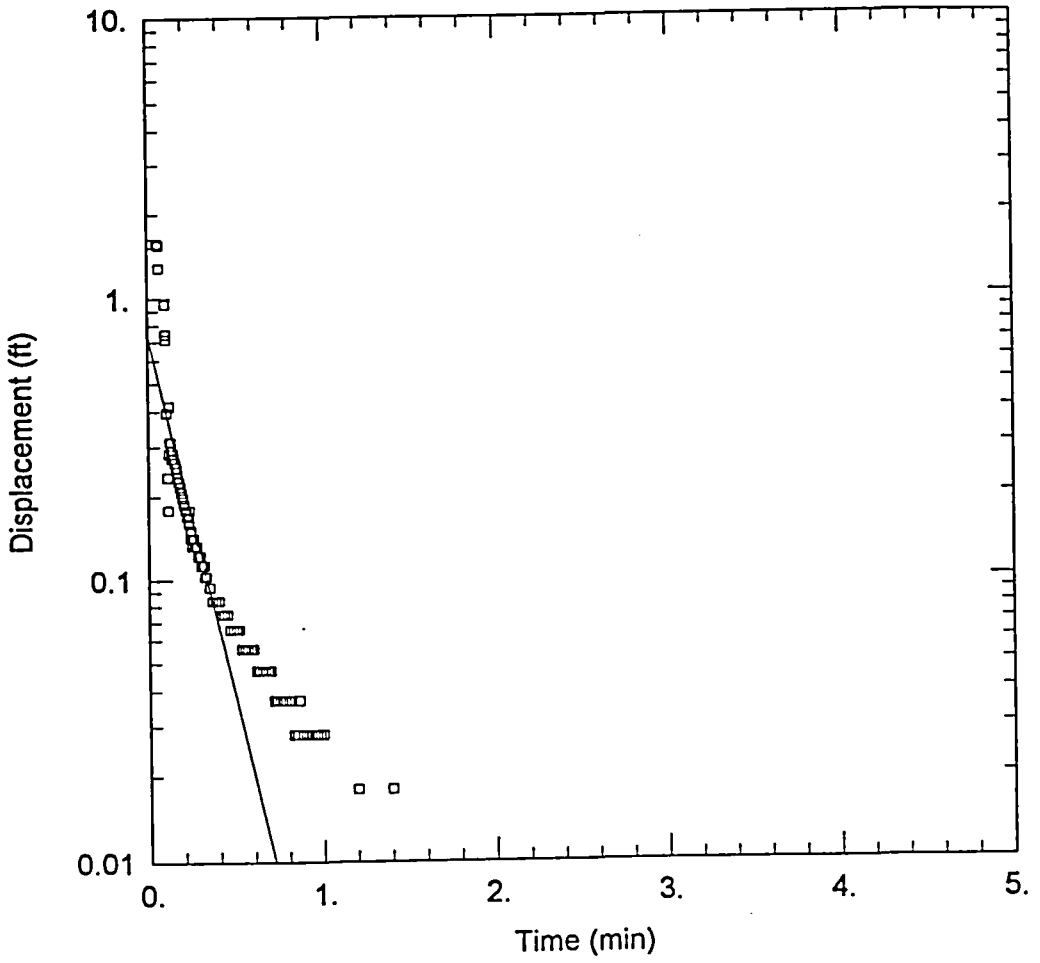
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 2.341 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 8.67 ft
Wellbore Radius: 0.333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.01171 cm/sec
y0 = 3.404 ft



MW5 SLUG IN

Data Set: G:\APROJECT\NCDOT\NC0360.212\SLUGTEST\MW-5IN.AQT
Date: 02/07/97 Time: 16:40:37

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.212
Test Well: MW-5
Test Date: 11/12/96

AQUIFER DATA

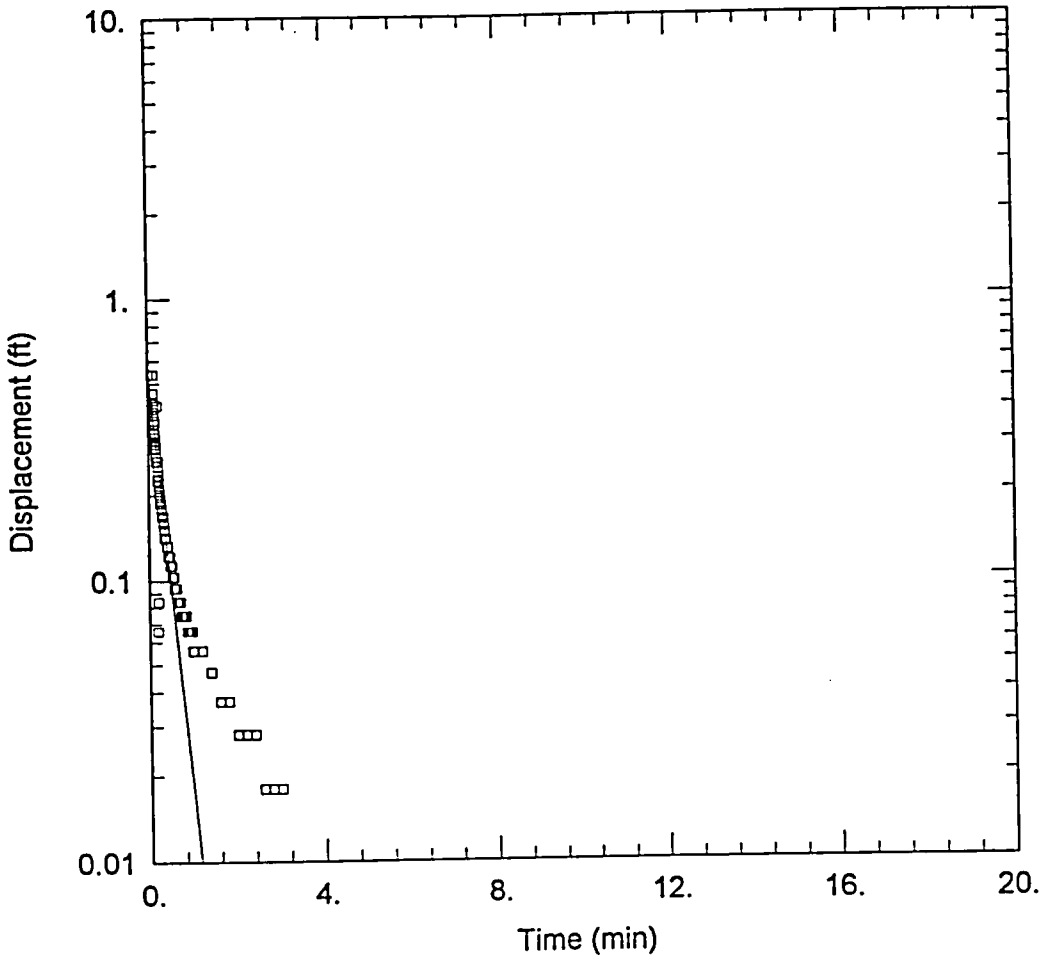
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 1.576 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 8.4 ft
Wellbore Radius: 0.333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.002361 cm/sec
y0 = 0.7321 ft



MW1 SLUG IN

Data Set: G:\APROJECT\NCDOT\NC0360.212\SLUGTEST\MW-1IN.AQT
Date: 02/07/97 Time: 16:24:26

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.212
Test Well: MW-1
Test Date: 11/12/96

AQUIFER DATA

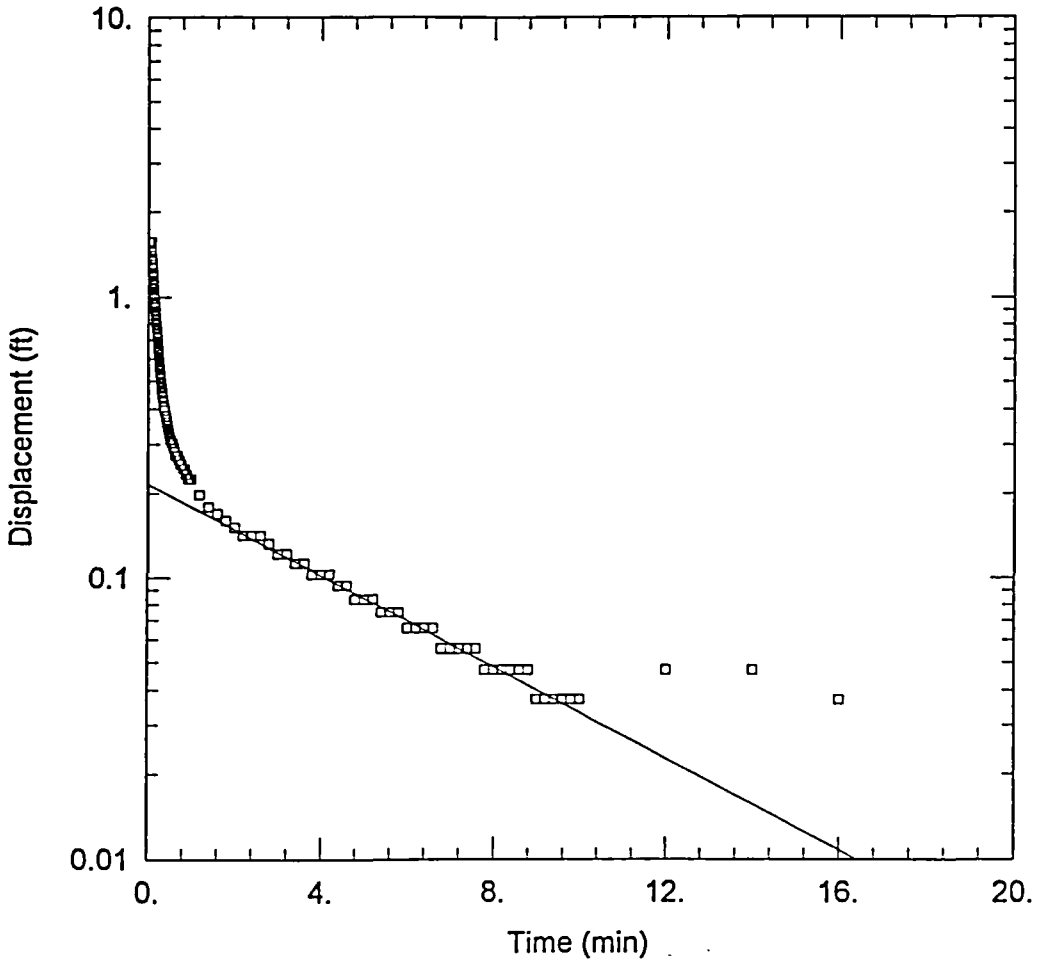
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 0.538 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 6.54 ft
Wellbore Radius: 0.333 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.001274 cm/sec
y0 = 0.5411 ft



MW-1 SLUG OUT

Data Set: G:\APROJECT\NCDOT\NC0360.012\SLUGTEST\MW-1OUT.AQT
Date: 02/14/97 Time: 15:56:51

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.012
Test Well: MW-1
Test Date: 11/07/96

AQUIFER DATA

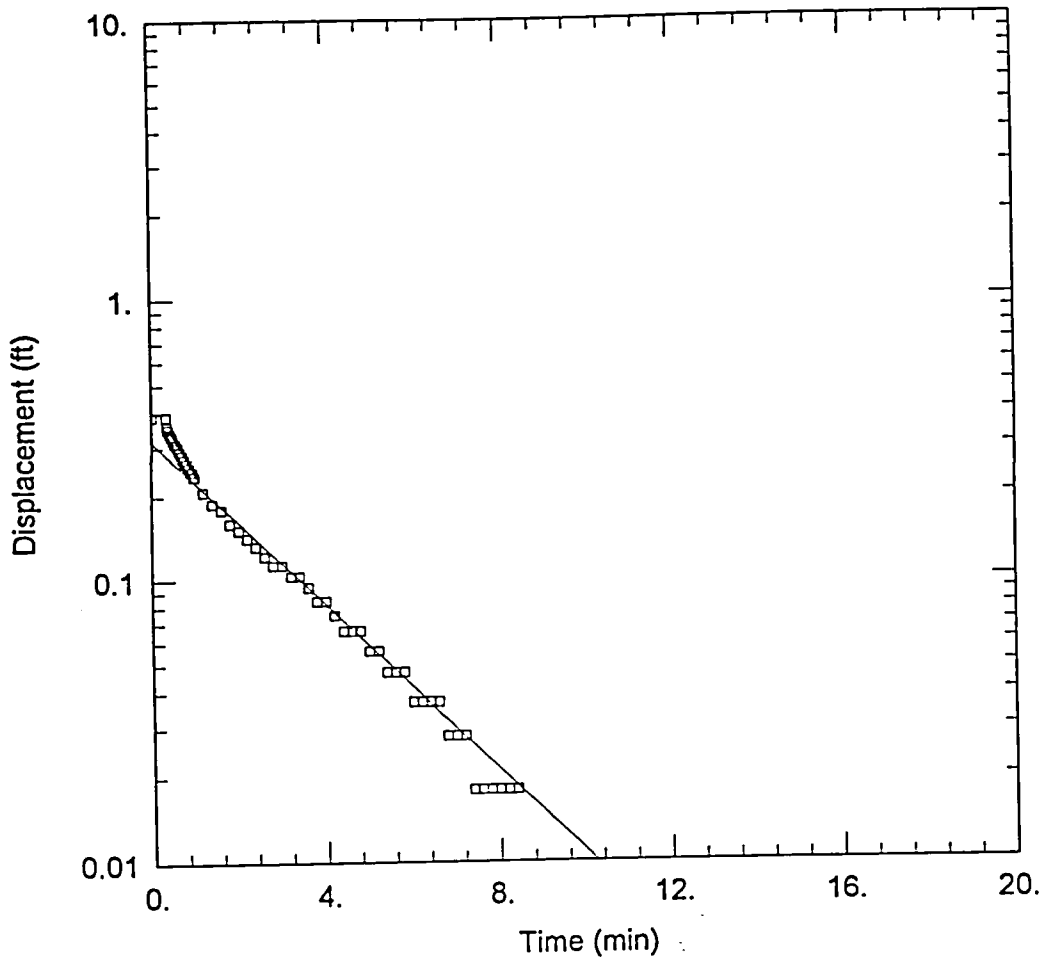
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 1.557 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 9.13 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0003092 cm/sec
y0 = 0.2159 ft



MW-4 SLUG IN

Data Set: G:\APROJECT\NCDOT\NC0360.012\SLUGTEST\MW-4IN.AQT
Date: 02/14/97 Time: 15:41:16

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.012
Test Well: MW-4
Test Date: 11/07/96

AQUIFER DATA

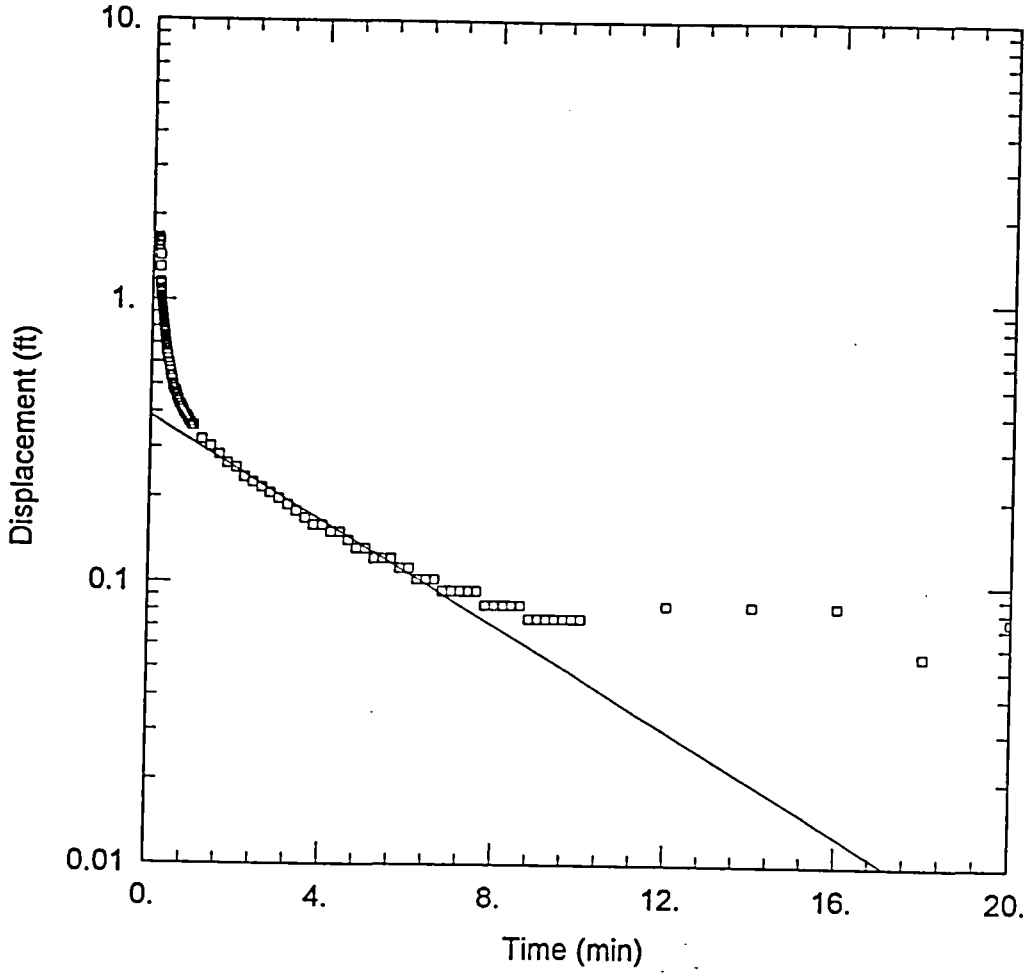
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 0.387 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 6.98 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0005026 cm/sec
y0 = 0.3161 ft



MW-4 SLUG OUT

Data Set: G:\APROJECT\NCDOT\NC0360.012\SLUGTEST\MW-4OUT.AQT
Date: 02/14/97 Time: 15:50:16

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.012
Test Well: MW-4
Test Date: 11/07/96

AQUIFER DATA

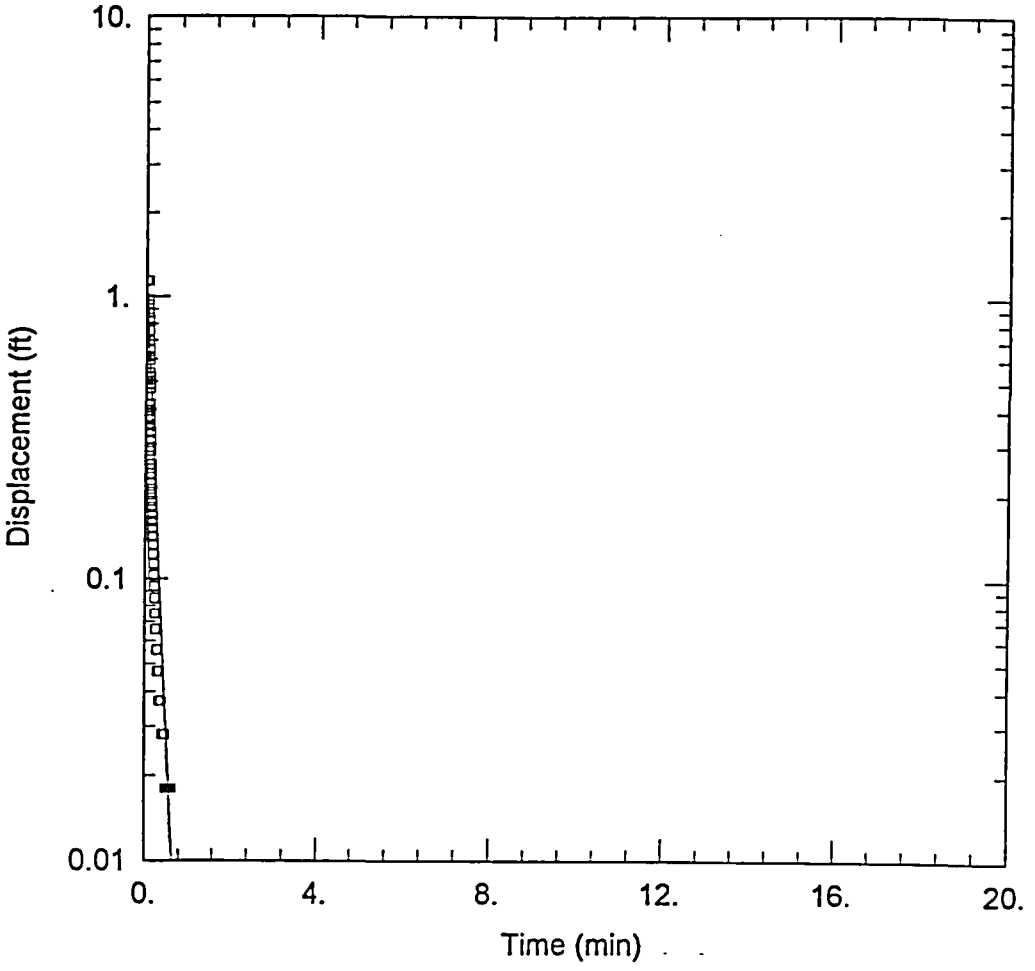
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 1.652 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 6.98 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0003173 cm/sec
y0 = 0.3874 ft



MW-7 SLUG OUT

Data Set: G:\APROJECT\NCDOT\NC0360.012\SLUGTEST\MW-7OUT.AQT
Date: 02/14/97 Time: 15:43:24

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.012
Test Well: MW-7
Test Date: 11/07/96

AQUIFER DATA

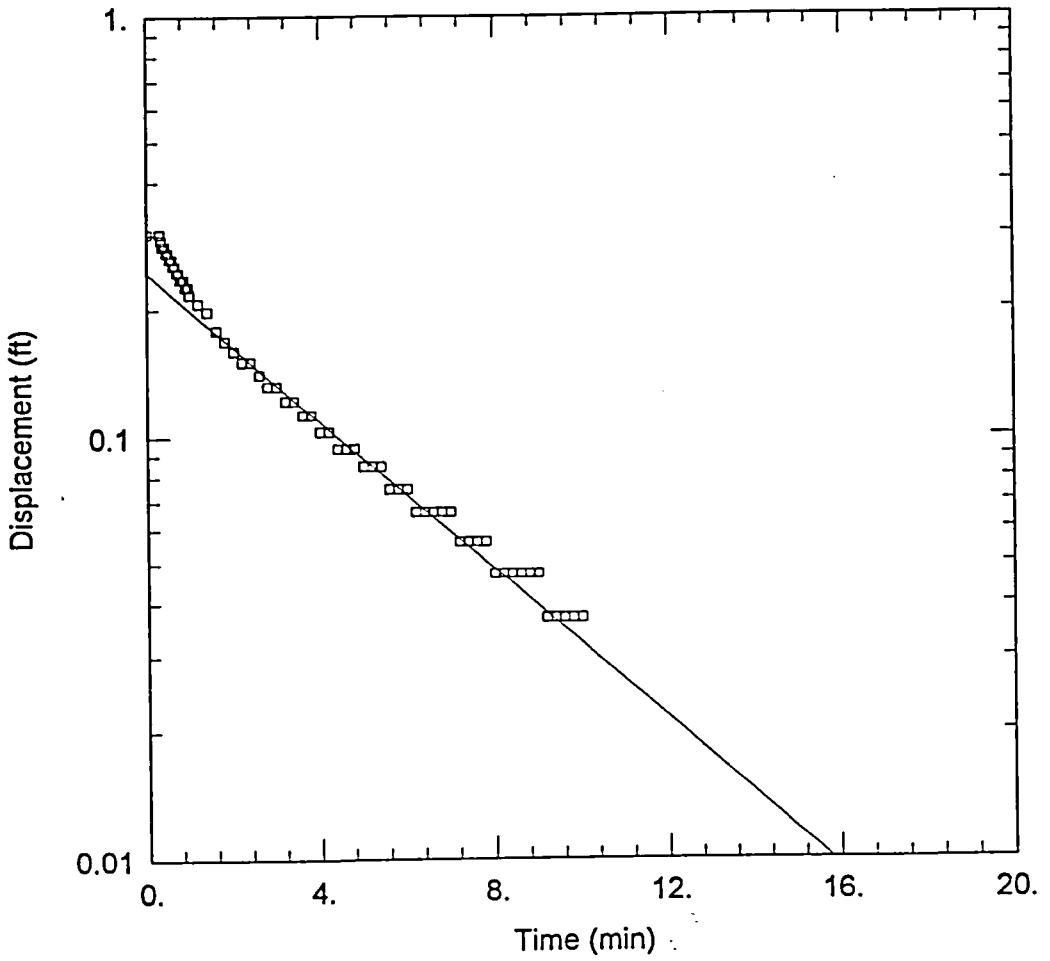
Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 1.132 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 9.3 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.01194 cm/sec
y0 = 1.057 ft



MW-1 SLUG IN

Data Set: G:\APROJECT\NCDOT\NC0360.012\SLUGTEST\MW-1IN.AQT
Date: 02/14/97 Time: 15:55:44

PROJECT INFORMATION

Company: Geraghty & Miller
Client: NCDOT
Project: NC0360.012
Test Well: MW-1
Test Date: 11/07/96

AQUIFER DATA

Saturated Thickness: 10. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Initial Displacement: 0.302 ft
Casing Radius: 0.083 ft
Screen Length: 10. ft
Water Column Height: 9.13 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0003337 cm/sec
y0 = 0.2439 ft

APPENDIX G

APPENDIX G

LABORATORY ANALYTICAL REPORTS

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

Mr. Fred Rash
Geraghty & Miller
2840 Plaza Place
Raleigh,NC 27612

Date 10-04-96

Report Number: G149-39 & 40

Client Project Number: NC0360.211
Project Location: Lumberton, NC
LTO Number: 20796

Dear Mr. Rash :

Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical service projects. We look forward to working with you again on any additional needs which you may have.

Sincerely,

Paradigm Analytical Laboratories

Mark Randall

Laboratory Director
Mark Randall

CASE NARRATIVE FOR PROJECTS 149-39 & 40

LTO # 20796

SURROGATES:

149-39 & 40

All within acceptance criteria

BLANKS:

149-39 & 40

All blanks - all compounds BQL

MATRIX SPIKES/MATRIX SPIKE DUPLICATES:

149-40

8021 MS/MSD

All compounds within recovery criteria.
4 compounds failed RPD criteria.

8021 LCS

All compounds within recovery criteria

MS/MSD/LCS spiked at 20 ppb

149-39

6230D MS/MSD

3 compound failed acceptance criteria for recovery.
1 compounds failed RPD acceptance criteria (30%).

LCS

All compounds within acceptance criteria

MS/MSD/LCS spiked at 5 ppb

HOLDING TIME:

All samples analyzed within holding time

DILUTIONS:

See attached

COMMENTS:

All reported results were qualitatively confirmed by GC/MS.

PAL Proj#	Client Sample ID	COC /Proj ID	Lab ID	Report	Analyses
G149-39	GW-1	NC0360.211	15131	6230D	6230D-WA
G149-39	GW-2	NC0360.211	15132	6230D	6230D-WA
G149-39	GW-3	NC0360.211	15133	6230D	6230D-WA
G149-39	GW-4	NC0360.211	15134	6230D	6230D-WA
G149-39	GW-5	NC0360.211	15135	6230D	6230D-WA
G149-39	GW-6	NC0360.211	15136	6230D	6230D-WA
G149-39	SW-1	NC0360.211	15137	6230D	6230D-WA
G149-39	EB-01-GW	NC0360.211	15138	6230D	6230D-WA
G149-39	TB-01-9/20/96	NC0360.211	15139	6230D	6230D-WA
G149-39	REP-01-GW	NC0360.211	15140	6230D	6230D-WA
G149-39	GW-3MS	NC0360.211	15141	6230D	6230D-WA
G149-39	GW-3MSD	NC0360.211	15142	6230D	6230D-WA
G149-40	SS-1-4.5	NC0360.211	15143	8021	8021-SO
G149-40	SS-2-4	NC0360.211	15144	8021	8021-SO
G149-40	SS-3-4	NC0360.211	15145	8021	8021-SO
G149-40	SS-4-4	NC0360.211	15146	8021	8021-SO
G149-40	SS-5-4	NC0360.211	15147	8021	8021-SO
G149-40	SS-6-4	NC0360.211	15148	8021	8021-SO
G149-40	REP-01-SS	NC0360.211	15149	8021	8021-SO
G149-40	TB-01-9/19/96	NC0360.211	15150	8021	8021-WA
G149-40	EB-01-SS	NC0360.211	15151	8021	8021-WA
G149-40	SS-5-4MS	NC0360.211	15152	8021	8021-SO
G149-40	SS-5-4MSD	NC0360.211	15153	8021	8021-SO

Date Printed 10/5/96

PARADIGM ANALYTICAL LABORATORIES, INC.

SAMPLES AND ASSOCIATED BLANKS, CALIBRATION CURVES AND CONTINUING CAL.

SAMPLE ID	ASSOCIATED BLANK		CALIBRATION CU		CONTINUING CAL	
	PID	Hall	PID	HALL	PID	Hall
15131	VBLK092696	VBLK092696	92696	92696	92696	92696
15132	VBLK092696	VBLK092696	92696	92696	92696	92696
15133	VBLK092696	VBLK100496	92696	100396	92696	100396
15134	VBLK092696	VBLK092696	92696	92696	92696	92696
15135	VBLK092696	VBLK100496	92696	100396	92696	100396
15136	VBLK092696	VBLK092696	92696	92696	92696	92696
15137	VBLK100496	VBLK100496	100396	100396	100396	100396
15138	VBLK092696	VBLK092696	92696	92696	92696	92696
15139	VBLK092696	VBLK092696	92696	92696	92696	92696
15140	VBLK092696	VBLK092696	92696	92696	92696	92696
15143	VBLK092696	VBLK092696				
15144	VBLK092696	VBLK092696				
15145	VBLK092696	VBLK092696				
15146	VBLK092696	VBLK092696				
15147	VBLK100296	VBLK100296				
15148	VBLK100296	VBLK100296				
15149	VBLK092696	VBLK092696				
15150	VBLK093096	VBLK093096				
15151	VBLK093096	VBLK093096				

PARADIGM ANALYTICAL LABORATORIES, INC.

DILUTIONS 149-39 & 40

SAMPLE ID	PID	HALL
15133	1X	10X
15135	1X	10X

Surrogate Recovery Limits

	6230D	8021
1,4-Dichlorobutane	85-120%	83-123%
Trifluorotoluene	85-122%	84-122%

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-1-4.5
Client Project ID: NC0360.211
Lab Sample ID: 15143
Lab Project ID: G149-40 %Solids: 93.5

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	9/27/96	1	1.1	BQL
Bromobenzene	9/27/96	1	2.1	BQL
Bromochloromethane	9/27/96	1	1.1	BQL
Bromodichloromethane	9/27/96	1	1.1	BQL
Bromoform	9/27/96	1	2.1	BQL
Bromomethane	9/27/96	1	2.1	BQL
n-Butylbenzene	9/27/96	1	1.1	BQL
sec-Butylbenzene	9/27/96	1	1.1	BQL
tert-Butylbenzene	9/27/96	1	1.1	BQL
Carbon tetrachloride	9/27/96	1	1.1	BQL
Chlorobenzene	9/27/96	1	1.1	BQL
Chloroethane	9/27/96	1	1.1	BQL
Chloroform	9/27/96	1	1.1	BQL
Chloromethane	9/27/96	1	1.1	BQL
2-Chlorotoluene	9/27/96	1	1.1	BQL
4-Chlorotoluene	9/27/96	1	2.1	BQL
Dibromochloromethane	9/27/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	9/27/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	9/27/96	1	1.1	BQL
Dibromomethane	9/27/96	1	1.1	BQL
1,2-Dichlorobenzene	9/27/96	1	1.1	BQL
1,3-Dichlorobenzene	9/27/96	1	1.1	BQL
1,4-Dichlorobenzene	9/27/96	1	1.1	BQL
Dichlorodifluoromethane	9/27/96	1	5.4	BQL
1,1-Dichloroethane	9/27/96	1	1.1	BQL
1,2-Dichloroethane	9/27/96	1	1.1	BQL
1,1-Dichloroethene	9/27/96	1	1.1	BQL
cis-1,2-Dichloroethene	9/27/96	1	1.1	**1.5**
trans-1,2-Dichloroethene	9/27/96	1	1.1	BQL
1,2-Dichloropropane	9/27/96	1	1.1	BQL
2,2-Dichloropropane	9/27/96	1	2.1	BQL
cis-1,3-Dichloropropene	9/27/96	1	1.1	BQL
trans-1,3-Dichloropropene	9/27/96	1	1.1	BQL
Diisopropyl ether (DIPE)	9/27/96	1	1.1	BQL
Ethylbenzene	9/27/96	1	1.1	**1.1**
Hexachlorobutadiene	9/27/96	1	1.1	BQL
Isopropylbenzene	9/27/96	1	1.1	BQL
p-Isopropyltoluene	9/27/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	9/27/96	1	1.1	BQL
Methylene Chloride	9/27/96	1	5.4	**26**
Naphthalene	9/27/96	1	1.1	BQL
n-Propylbenzene	9/27/96	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-1-4.5
Client Project ID: NC0360.211
Lab Sample ID: 15143
Lab Project ID: G149-40 %Solids: 93.5

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	9/27/96	1	2.1	BQL
1,1,1,2-Tertrachloroethane	9/27/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	9/27/96	1	1.1	BQL
Tetrachloroethene	9/27/96	1	1.1	BQL
Toluene	9/27/96	1	1.1	**1.4**
1,2,3-Trichlorobenzene	9/27/96	1	1.1	BQL
1,2,4-Trichlorobenzene	9/27/96	1	1.1	BQL
1,1,1-Trichloroethane	9/27/96	1	1.1	BQL
1,1,2-Trichloroethane	9/27/96	1	1.1	BQL
Trichloroethene	9/27/96	1	1.1	BQL
Trichloroflurometh ane	9/27/96	1	1.1	BQL
1,2,3-Trichloropropane	9/27/96	1	2.1	BQL
1,2,4-Trimethylbenzene	9/27/96	1	1.1	BQL
1,3,5-Trimethylbenzene	9/27/96	1	2.1	BQL
Vinyl Chloride	9/27/96	1	1.1	BQL
m/p-Xylene	9/27/96	1	2.1	**11**
o-Xylene	9/27/96	1	2.1	**3.8**

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	40	100
Trifluorotoluene	40	39	98

Comments:
All values corrected for dilution and %solids.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 8021

Client Sample ID: SS-2-4
Client Project ID: NC0360.211
Lab Sample ID: 15144
Lab Project ID: G149-40 %Solids: 92.6

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	9/27/96	1	1.1	BQL
Bromobenzene	9/27/96	1	2.2	BQL
Bromochloromethane	9/27/96	1	1.1	BQL
Bromodichloromethane	9/27/96	1	1.1	BQL
Bromoform	9/27/96	1	2.2	BQL
Bromomethane	9/27/96	1	2.2	BQL
n-Butylbenzene	9/27/96	1	1.1	BQL
sec-Butylbenzene	9/27/96	1	1.1	BQL
tert-Butylbenzene	9/27/96	1	1.1	BQL
Carbon tetrachloride	9/27/96	1	1.1	BQL
Chlorobenzene	9/27/96	1	1.1	BQL
Chloroethane	9/27/96	1	1.1	BQL
Chloroform	9/27/96	1	1.1	BQL
Chloromethane	9/27/96	1	1.1	BQL
2-Chlorotoluene	9/27/96	1	1.1	BQL
4-Chlorotoluene	9/27/96	1	2.2	BQL
Dibromochloromethane	9/27/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	9/27/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	9/27/96	1	1.1	BQL
Dibromomethane	9/27/96	1	1.1	BQL
1,2-Dichlorobenzene	9/27/96	1	1.1	BQL
1,3-Dichlorobenzene	9/27/96	1	1.1	BQL
1,4-Dichlorobenzene	9/27/96	1	1.1	BQL
Dichlorodifluoromethane	9/27/96	1	5.4	BQL
1,1-Dichloroethane	9/27/96	1	1.1	BQL
1,2-Dichloroethane	9/27/96	1	1.1	BQL
1,1-Dichloroethene	9/27/96	1	1.1	BQL
cis-1,2-Dichloroethene	9/27/96	1	1.1	BQL
trans-1,2-Dichloroethene	9/27/96	1	1.1	BQL
1,2-Dichloropropane	9/27/96	1	1.1	BQL
2,2-Dichloropropane	9/27/96	1	2.2	BQL
cis-1,3-Dichloropropene	9/27/96	1	1.1	BQL
trans-1,3-Dichloropropene	9/27/96	1	1.1	BQL
Diisopropyl ether (DIPE)	9/27/96	1	1.1	BQL
Ethylbenzene	9/27/96	1	1.1	BQL
Hexachlorobutadiene	9/27/96	1	1.1	BQL
Isopropylbenzene	9/27/96	1	1.1	BQL
p-Isopropyltoluene	9/27/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	9/27/96	1	1.1	BQL
Methylene Chloride	9/27/96	1	5.4	28
Naphthalene	9/27/96	1	1.1	BQL
n-Propylbenzene	9/27/96	1	1.1	BQL

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-2-4
Client Project ID: NC0360.211
Lab Sample ID: 15144
Lab Project ID: G149-40 %Solids: 92.6

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	9/27/96	1	2.2	BQL
1,1,1,2-Tertrachloroethane	9/27/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	9/27/96	1	1.1	BQL
Tetrachloroethene	9/27/96	1	1.1	BQL
Toluene	9/27/96	1	1.1	BQL
1,2,3-Trichlorobenzene	9/27/96	1	1.1	BQL
1,2,4-Trichlorobenzene	9/27/96	1	1.1	BQL
1,1,1-Trichloroethane	9/27/96	1	1.1	BQL
1,1,2-Trichloroethane	9/27/96	1	1.1	BQL
Trichloroethene	9/27/96	1	1.1	BQL
Trichlorofluromethane	9/27/96	1	1.1	BQL
1,2,3-Trichloropropane	9/27/96	1	2.2	BQL
1,2,4-Trimethylbenzene	9/27/96	1	1.1	BQL
1,3,5-Trimethylbenzene	9/27/96	1	2.2	BQL
Vinyl Chloride	9/27/96	1	1.1	BQL
m/p-Xylene	9/27/96	1	2.2	BQL
o-Xylene	9/27/96	1	2.2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	40	100
Trifluorotoluene	40	39	98

Comments:
All values corrected for dilution and %solids.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-3-4
Client Project ID: NC0360.211
Lab Sample ID: 15145
Lab Project ID: G149-40 %Solids: 90.8

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	9/27/96	1	1.1	BQL
Bromobenzene	9/27/96	1	2.2	BQL
Bromochloromethane	9/27/96	1	1.1	BQL
Bromodichloromethane	9/27/96	1	1.1	BQL
Bromoform	9/27/96	1	2.2	BQL
Bromomethane	9/27/96	1	2.2	BQL
n-Butylbenzene	9/27/96	1	1.1	BQL
sec-Butylbenzene	9/27/96	1	1.1	BQL
tert-Butylbenzene	9/27/96	1	1.1	BQL
Carbon tetrachloride	9/27/96	1	1.1	BQL
Chlorobenzene	9/27/96	1	1.1	BQL
Chloroethane	9/27/96	1	1.1	BQL
Chloroform	9/27/96	1	1.1	BQL
Chloromethane	9/27/96	1	1.1	BQL
2-Chlorotoluene	9/27/96	1	1.1	BQL
4-Chlorotoluene	9/27/96	1	2.2	BQL
Dibromochloromethane	9/27/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	9/27/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	9/27/96	1	1.1	BQL
Dibromomethane	9/27/96	1	1.1	BQL
1,2-Dichlorobenzene	9/27/96	1	1.1	BQL
1,3-Dichlorobenzene	9/27/96	1	1.1	BQL
1,4-Dichlorobenzene	9/27/96	1	1.1	BQL
Dichlorodifluoromethane	9/27/96	1	5.5	BQL
1,1-Dichloroethane	9/27/96	1	1.1	BQL
1,2-Dichloroethane	9/27/96	1	1.1	BQL
1,1-Dichloroethene	9/27/96	1	1.1	BQL
cis-1,2-Dichloroethene	9/27/96	1	1.1	BQL
trans-1,2-Dichloroethene	9/27/96	1	1.1	BQL
1,2-Dichloropropane	9/27/96	1	1.1	BQL
2,2-Dichloropropane	9/27/96	1	2.2	BQL
cis-1,3-Dichloropropene	9/27/96	1	1.1	BQL
trans-1,3-Dichloropropene	9/27/96	1	1.1	BQL
Diisopropyl ether (DIPE)	9/27/96	1	1.1	BQL
Ethylbenzene	9/27/96	1	1.1	BQL
Hexachlorobutadiene	9/27/96	1	1.1	BQL
Isopropylbenzene	9/27/96	1	1.1	BQL
p-Isopropyltoluene	9/27/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	9/27/96	1	1.1	BQL
Methylene Chloride	9/27/96	1	5.5	**28**
Naphthalene	9/27/96	1	1.1	BQL
n-Propylbenzene	9/27/96	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 8021

Client Sample ID: SS-3-4
Client Project ID: NC0360.211
Lab Sample ID: 15145
Lab Project ID: G149-40 %Solids: 90.8

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	9/27/96	1	2.2	BQL
1,1,1,2-Tertrachloroethane	9/27/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	9/27/96	1	1.1	BQL
Tetrachloroethene	9/27/96	1	1.1	BQL
Toluene	9/27/96	1	1.1	BQL
1,2,3-Trichlorobenzene	9/27/96	1	1.1	BQL
1,2,4-Trichlorobenzene	9/27/96	1	1.1	BQL
1,1,1-Trichloroethane	9/27/96	1	1.1	BQL
1,1,2-Trichloroethane	9/27/96	1	1.1	BQL
Trichloroethene	9/27/96	1	1.1	BQL
Trichloroflurometh ane	9/27/96	1	1.1	BQL
1,2,3-Trichloropropane	9/27/96	1	2.2	BQL
1,2,4-Trimethylbenzene	9/27/96	1	1.1	BQL
1,3,5-Trimethylbenzene	9/27/96	1	2.2	BQL
Vinyl Chloride	9/27/96	1	1.1	BQL
m/p-Xylene	9/27/96	1	2.2	**8.2**
o-Xylene	9/27/96	1	2.2	**3.3**

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	41	102
Trifluorotoluene	40	39	98

Comments:

All values corrected for dilution and %solids.

Reviewed By: ma

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-4-4
Client Project ID: NC0360.211
Lab Sample ID: 15146
Lab Project ID: G149-40 %Solids: 93.5

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	9/27/96	1	1.1	BQL
Bromobenzene	9/27/96	1	2.1	BQL
Bromochloromethane	9/27/96	1	1.1	BQL
Bromodichloromethane	9/27/96	1	1.1	BQL
Bromoform	9/27/96	1	2.1	BQL
Bromomethane	9/27/96	1	2.1	BQL
n-Butylbenzene	9/27/96	1	1.1	BQL
sec-Butylbenzene	9/27/96	1	1.1	BQL
tert-Butylbenzene	9/27/96	1	1.1	BQL
Carbon tetrachloride	9/27/96	1	1.1	BQL
Chlorobenzene	9/27/96	1	1.1	BQL
Chloroethane	9/27/96	1	1.1	BQL
Chloroform	9/27/96	1	1.1	BQL
Chloromethane	9/27/96	1	1.1	BQL
2-Chlorotoluene	9/27/96	1	1.1	BQL
4-Chlorotoluene	9/27/96	1	2.1	BQL
Dibromochloromethane	9/27/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	9/27/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	9/27/96	1	1.1	BQL
Dibromomethane	9/27/96	1	1.1	BQL
1,2-Dichlorobenzene	9/27/96	1	1.1	BQL
1,3-Dichlorobenzene	9/27/96	1	1.1	BQL
1,4-Dichlorobenzene	9/27/96	1	1.1	BQL
Dichlorodifluoromethane	9/27/96	1	5.4	BQL
1,1-Dichloroethane	9/27/96	1	1.1	BQL
1,2-Dichloroethane	9/27/96	1	1.1	BQL
1,1-Dichloroethene	9/27/96	1	1.1	BQL
cis-1,2-Dichloroethene	9/27/96	1	1.1	**1.5**
trans-1,2-Dichloroethene	9/27/96	1	1.1	BQL
1,2-Dichloropropane	9/27/96	1	1.1	BQL
2,2-Dichloropropane	9/27/96	1	2.1	BQL
cis-1,3-Dichloropropene	9/27/96	1	1.1	BQL
trans-1,3-Dichloropropene	9/27/96	1	1.1	BQL
Diisopropyl ether (DIPE)	9/27/96	1	1.1	BQL
Ethylbenzene	9/27/96	1	1.1	BQL
Hexachlorobutadiene	9/27/96	1	1.1	BQL
Isopropylbenzene	9/27/96	1	1.1	BQL
p-Isopropyltoluene	9/27/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	9/27/96	1	1.1	BQL
Methylene Chloride	9/27/96	1	5.4	**26**
Naphthalene	9/27/96	1	1.1	BQL
n-Propylbenzene	9/27/96	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-4-4
Client Project ID: NC0360.211
Lab Sample ID: 15146
Lab Project ID: G149-40 %Solids: 93.5

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	9/27/96	1	2.1	BQL
1,1,1,2-Tertrachloroethane	9/27/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	9/27/96	1	1.1	BQL
Tetrachloroethene	9/27/96	1	1.1	BQL
Toluene	9/27/96	1	1.1	**1.8**
1,2,3-Trichlorobenzene	9/27/96	1	1.1	BQL
1,2,4-Trichlorobenzene	9/27/96	1	1.1	BQL
1,1,1-Trichloroethane	9/27/96	1	1.1	BQL
1,1,2-Trichloroethane	9/27/96	1	1.1	BQL
Trichloroethene	9/27/96	1	1.1	BQL
Trichlorofluromethane	9/27/96	1	1.1	BQL
1,2,3-Trichloropropane	9/27/96	1	2.1	BQL
1,2,4-Trimethylbenzene	9/27/96	1	1.1	BQL
1,3,5-Trimethylbenzene	9/27/96	1	2.1	BQL
Vinyl Chloride	9/27/96	1	1.1	BQL
m/p-Xylene	9/27/96	1	2.1	**5.4**
o-Xylene	9/27/96	1	2.1	**2.5**

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	41	102
Trifluorotoluene	40	39	98

Comments:
All values corrected for dilution and %solids.

Reviewed By: MN

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-5-4
Client Project ID: NC0360.211
Lab Sample ID: 15147
Lab Project ID: G149-40 %Solids: 93.8

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	10/2/96	1	1.1	**1.1**
Bromobenzene	10/2/96	1	2.1	BQL
Bromochloromethane	10/2/96	1	1.1	BQL
Bromodichloromethane	10/2/96	1	1.1	BQL
Bromoform	10/2/96	1	2.1	BQL
Bromomethane	10/2/96	1	2.1	BQL
n-Butylbenzene	10/2/96	1	1.1	BQL
sec-Butylbenzene	10/2/96	1	1.1	BQL
tert-Butylbenzene	10/2/96	1	1.1	BQL
Carbon tetrachloride	10/2/96	1	1.1	BQL
Chlorobenzene	10/2/96	1	1.1	BQL
Chloroethane	10/2/96	1	1.1	BQL
Chloroform	10/2/96	1	1.1	BQL
Chloromethane	10/2/96	1	1.1	BQL
2-Chlorotoluene	10/2/96	1	1.1	BQL
4-Chlorotoluene	10/2/96	1	2.1	BQL
Dibromochloromethane	10/2/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	10/2/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	10/2/96	1	1.1	BQL
Dibromomethane	10/2/96	1	1.1	BQL
1,2-Dichlorobenzene	10/2/96	1	1.1	BQL
1,3-Dichlorobenzene	10/2/96	1	1.1	BQL
1,4-Dichlorobenzene	10/2/96	1	1.1	BQL
Dichlorodifluoromethane	10/2/96	1	5.3	BQL
1,1-Dichloroethane	10/2/96	1	1.1	BQL
1,2-Dichloroethane	10/2/96	1	1.1	BQL
1,1-Dichloroethene	10/2/96	1	1.1	BQL
cis-1,2-Dichloroethene	10/2/96	1	1.1	BQL
trans-1,2-Dichloroethene	10/2/96	1	1.1	BQL
1,2-Dichloropropane	10/2/96	1	1.1	BQL
2,2-Dichloropropane	10/2/96	1	2.1	BQL
cis-1,3-Dichloropropene	10/2/96	1	1.1	BQL
trans-1,3-Dichloropropene	10/2/96	1	1.1	BQL
Diisopropyl ether (DIPE)	10/2/96	1	1.1	BQL
Ethylbenzene	10/2/96	1	1.1	BQL
Hexachlorobutadiene	10/2/96	1	1.1	BQL
Isopropylbenzene	10/2/96	1	1.1	BQL
p-Isopropyltoluene	10/2/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	10/2/96	1	1.1	BQL
Methylene Chloride	10/2/96	1	5.3	BQL
Naphthalene	10/2/96	1	1.1	**1.2**
n-Propylbenzene	10/2/96	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-5-4
Client Project ID: NC0360.211
Lab Sample ID: 15147
Lab Project ID: G149-40 %Solids: 93.8

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	10/2/96	1	2.1	BQL
1,1,1,2-Tertrachloroethane	10/2/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	10/2/96	1	1.1	BQL
Tetrachloroethene	10/2/96	1	1.1	BQL
Toluene	10/2/96	1	1.1	**1.3**
1,2,3-Trichlorobenzene	10/2/96	1	1.1	BQL
1,2,4-Trichlorobenzene	10/2/96	1	1.1	BQL
1,1,1-Trichloroethane	10/2/96	1	1.1	BQL
1,1,2-Trichloroethane	10/2/96	1	1.1	BQL
Trichloroethene	10/2/96	1	1.1	BQL
Trichlorofluromethane	10/2/96	1	1.1	BQL
1,2,3-Trichloropropane	10/2/96	1	2.1	BQL
1,2,4-Trimethylbenzene	10/2/96	1	1.1	BQL
1,3,5-Trimethylbenzene	10/2/96	1	2.1	BQL
Vinyl Chloride	10/2/96	1	1.1	BQL
m/p-Xylene	10/2/96	1	2.1	**2.2**
o-Xylene	10/2/96	1	2.1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	43	108
Trifluorotoluene	40	38	95

Comments:
All values corrected for dilution and %solids.

Reviewed By: Ma

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-6-4
Client Project ID: NC0360.211
Lab Sample ID: 15148
Lab Project ID: G149-40 %Solids: 88.1

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	10/2/96	1	1.1	**1.5**
Bromobenzene	10/2/96	1	2.3	BQL
Bromochloromethane	10/2/96	1	1.1	BQL
Bromodichloromethane	10/2/96	1	1.1	BQL
Bromoform	10/2/96	1	2.3	BQL
Bromomethane	10/2/96	1	2.3	BQL
n-Butylbenzene	10/2/96	1	1.1	BQL
sec-Butylbenzene	10/2/96	1	1.1	BQL
tert-Butylbenzene	10/2/96	1	1.1	BQL
Carbon tetrachloride	10/2/96	1	1.1	BQL
Chlorobenzene	10/2/96	1	1.1	BQL
Chloroethane	10/2/96	1	1.1	BQL
Chloroform	10/2/96	1	1.1	BQL
Chloromethane	10/2/96	1	1.1	BQL
2-Chlorotoluene	10/2/96	1	1.1	BQL
4-Chlorotoluene	10/2/96	1	2.3	BQL
Dibromochloromethane	10/2/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	10/2/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	10/2/96	1	1.1	BQL
Dibromomethane	10/2/96	1	1.1	BQL
1,2-Dichlorobenzene	10/2/96	1	1.1	BQL
1,3-Dichlorobenzene	10/2/96	1	1.1	BQL
1,4-Dichlorobenzene	10/2/96	1	1.1	BQL
Dichlorodifluoromethane	10/2/96	1	5.7	BQL
1,1-Dichloroethane	10/2/96	1	1.1	BQL
1,2-Dichloroethane	10/2/96	1	1.1	BQL
1,1-Dichloroethene	10/2/96	1	1.1	BQL
cis-1,2-Dichloroethene	10/2/96	1	1.1	**64**
trans-1,2-Dichloroethene	10/2/96	1	1.1	**1.6**
1,2-Dichloropropane	10/2/96	1	1.1	BQL
2,2-Dichloropropane	10/2/96	1	2.3	BQL
cis-1,3-Dichloropropene	10/2/96	1	1.1	BQL
trans-1,3-Dichloropropene	10/2/96	1	1.1	BQL
Diisopropyl ether (DIPE)	10/2/96	1	1.1	**3.7**
Ethylbenzene	10/2/96	1	1.1	**1.7**
Hexachlorobutadiene	10/2/96	1	1.1	BQL
Isopropylbenzene	10/2/96	1	1.1	BQL
p-Isopropyltoluene	10/2/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	10/2/96	1	1.1	**3.7**
Methylene Chloride	10/2/96	1	5.7	BQL
Naphthalene	10/2/96	1	1.1	BQL
n-Propylbenzene	10/2/96	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: SS-6-4
Client Project ID: NC0360.211
Lab Sample ID: 15148
Lab Project ID: G149-40 %Solids: 88.1

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	10/2/96	1	2.3	BQL
1,1,1,2-Tertrachloroethane	10/2/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	10/2/96	1	1.1	BQL
Tetrachloroethene	10/2/96	1	1.1	BQL
Toluene	10/2/96	1	1.1	**2.9**
1,2,3-Trichlorobenzene	10/2/96	1	1.1	BQL
1,2,4-Trichlorobenzene	10/2/96	1	1.1	BQL
1,1,1-Trichloroethane	10/2/96	1	1.1	BQL
1,1,2-Trichloroethane	10/2/96	1	1.1	BQL
Trichloroethene	10/2/96	1	1.1	BQL
Trichlorofluromethane	10/2/96	1	1.1	BQL
1,2,3-Trichloropropane	10/2/96	1	2.3	BQL
1,2,4-Trimethylbenzene	10/2/96	1	1.1	BQL
1,3,5-Trimethylbenzene	10/2/96	1	2.3	BQL
Vinyl Chloride	10/2/96	1	1.1	BQL
m/p-Xylene	10/2/96	1	2.3	**20**
o-Xylene	10/2/96	1	2.3	**4.8**

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105
Trifluorotoluene	40	38	95

Comments:
All values corrected for dilution and %solids.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: REP-01-SS
Client Project ID: NC0360.211
Lab Sample ID: 15149
Lab Project ID: G149-40 %Solids: 91.9

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	9/26/96	1	1.1	BQL
Bromobenzene	9/26/96	1	2.2	BQL
Bromochloromethane	9/26/96	1	1.1	BQL
Bromodichloromethane	9/26/96	1	1.1	BQL
Bromoform	9/26/96	1	2.2	BQL
Bromomethane	9/26/96	1	2.2	BQL
n-Butylbenzene	9/26/96	1	1.1	BQL
sec-Butylbenzene	9/26/96	1	1.1	BQL
tert-Butylbenzene	9/26/96	1	1.1	BQL
Carbon tetrachloride	9/26/96	1	1.1	BQL
Chlorobenzene	9/26/96	1	1.1	BQL
Chloroethane	9/26/96	1	1.1	BQL
Chloroform	9/26/96	1	1.1	BQL
Chloromethane	9/26/96	1	1.1	BQL
2-Chlorotoluene	9/26/96	1	1.1	BQL
4-Chlorotoluene	9/26/96	1	2.2	BQL
Dibromochloromethane	9/26/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	9/26/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	9/26/96	1	1.1	BQL
Dibromomethane	9/26/96	1	1.1	BQL
1,2-Dichlorobenzene	9/26/96	1	1.1	BQL
1,3-Dichlorobenzene	9/26/96	1	1.1	BQL
1,4-Dichlorobenzene	9/26/96	1	1.1	BQL
Dichlorodifluoromethane	9/26/96	1	5.4	BQL
1,1-Dichloroethane	9/26/96	1	1.1	BQL
1,2-Dichloroethane	9/26/96	1	1.1	BQL
1,1-Dichloroethene	9/26/96	1	1.1	BQL
cis-1,2-Dichloroethene	9/26/96	1	1.1	BQL
trans-1,2-Dichloroethene	9/26/96	1	1.1	BQL
1,2-Dichloropropane	9/26/96	1	1.1	BQL
2,2-Dichloropropane	9/26/96	1	2.2	BQL
cis-1,3-Dichloropropene	9/26/96	1	1.1	BQL
trans-1,3-Dichloropropene	9/26/96	1	1.1	BQL
Diisopropyl ether (DIPE)	9/26/96	1	1.1	BQL
Ethylbenzene	9/26/96	1	1.1	BQL
Hexachlorobutadiene	9/26/96	1	1.1	BQL
Isopropylbenzene	9/26/96	1	1.1	BQL
p-Isopropyltoluene	9/26/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	9/26/96	1	1.1	BQL
Methylene Chloride	9/26/96	1	5.4	29
Naphthalene	9/26/96	1	1.1	BQL
n-Propylbenzene	9/26/96	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: REP-01-SS
Client Project ID: NC0360.211
Lab Sample ID: 15149
Lab Project ID: G149-40 %Solids: 91.9

Analyzed By: CKC
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	9/26/96	1	2.2	BQL
1,1,1,2-Tertrachloroethane	9/26/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	9/26/96	1	1.1	BQL
Tetrachloroethene	9/26/96	1	1.1	BQL
Toluene	9/26/96	1	1.1	**1.2**
1,2,3-Trichlorobenzene	9/26/96	1	1.1	BQL
1,2,4-Trichlorobenzene	9/26/96	1	1.1	BQL
1,1,1-Trichloroethane	9/26/96	1	1.1	BQL
1,1,2-Trichloroethane	9/26/96	1	1.1	BQL
Trichloroethene	9/26/96	1	1.1	BQL
Trichloroflurometh ane	9/26/96	1	1.1	BQL
1,2,3-Trichloropropane	9/26/96	1	2.2	BQL
1,2,4-Trimethylbenzene	9/26/96	1	1.1	BQL
1,3,5-Trimethylbenzene	9/26/96	1	2.2	BQL
Vinyl Chloride	9/26/96	1	1.1	BQL
m/p-Xylene	9/26/96	1	2.2	**8.3**
o-Xylene	9/26/96	1	2.2	**3.3**

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105
Trifluorotoluene	40	39	98

Comments:
All values corrected for dilution and %solids.

Reviewed By: MSL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: TB-01-9/19/96
Client Project ID: NC0360.211
Lab Sample ID: 15150
Lab Project ID: G149-40

Analyzed By: RNP
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/30/96	1	1.0	BQL
Bromobenzene	9/30/96	1	2.0	BQL
Bromochloromethane	9/30/96	1	1.0	BQL
Bromodichloromethane	9/30/96	1	1.0	BQL
Bromoform	9/30/96	1	2.0	BQL
Bromomethane	9/30/96	1	2.0	BQL
n-Butylbenzene	9/30/96	1	1.0	BQL
sec-Butylbenzene	9/30/96	1	1.0	BQL
tert-Butylbenzene	9/30/96	1	1.0	BQL
Carbon tetrachloride	9/30/96	1	1.0	BQL
Chlorobenzene	9/30/96	1	1.0	BQL
Chloroethane	9/30/96	1	1.0	BQL
Chloroform	9/30/96	1	1.0	BQL
Chloromethane	9/30/96	1	1.0	BQL
2-Chlorotoluene	9/30/96	1	1.0	BQL
4-Chlorotoluene	9/30/96	1	2.0	BQL
Dibromochloromethane	9/30/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	9/30/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	9/30/96	1	1.0	BQL
Dibromomethane	9/30/96	1	1.0	BQL
1,2-Dichlorobenzene	9/30/96	1	1.0	BQL
1,3-Dichlorobenzene	9/30/96	1	1.0	BQL
1,4-Dichlorobenzene	9/30/96	1	1.0	BQL
Dichlorodifluoromethane	9/30/96	1	5.0	BQL
1,1-Dichloroethane	9/30/96	1	1.0	BQL
1,2-Dichloroethane	9/30/96	1	1.0	BQL
1,1-Dichloroethene	9/30/96	1	1.0	BQL
cis-1,2-Dichloroethene	9/30/96	1	1.0	BQL
trans-1,2-Dichloroethene	9/30/96	1	1.0	BQL
1,2-Dichloropropane	9/30/96	1	1.0	BQL
2,2-Dichloropropane	9/30/96	1	2.0	BQL
cis-1,3-Dichloropropene	9/30/96	1	1.0	BQL
trans-1,3-Dichloropropene	9/30/96	1	1.0	BQL
Diisopropyl ether (DIPE)	9/30/96	1	1.0	BQL
Ethylbenzene	9/30/96	1	1.0	BQL
Hexachlorobutadiene	9/30/96	1	1.0	BQL
Isopropylbenzene	9/30/96	1	1.0	BQL
p-Isopropyltoluene	9/30/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	9/30/96	1	1.0	BQL
Methylene Chloride	9/30/96	1	5.0	BQL
Naphthalene	9/30/96	1	1.0	BQL
n-Propylbenzene	9/30/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: TB-01-9/19/96
Client Project ID: NC0360.211
Lab Sample ID: 15150
Lab Project ID: G149-40

Analyzed By: RNP
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/30/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	9/30/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	9/30/96	1	1.0	BQL
Tetrachloroethene	9/30/96	1	1.0	BQL
Toluene	9/30/96	1	1.0	BQL
1,2,3-Trichlorobenzene	9/30/96	1	1.0	BQL
1,2,4-Trichlorobenzene	9/30/96	1	1.0	BQL
1,1,1-Trichloroethane	9/30/96	1	1.0	BQL
1,1,2-Trichloroethane	9/30/96	1	1.0	BQL
Trichloroethene	9/30/96	1	1.0	BQL
Trichlorofluromethane	9/30/96	1	1.0	BQL
1,2,3-Trichloropropane	9/30/96	1	2.0	BQL
1,2,4-Trimethylbenzene	9/30/96	1	1.0	BQL
1,3,5-Trimethylbenzene	9/30/96	1	2.0	BQL
Vinyl Chloride	9/30/96	1	1.0	BQL
m/p-Xylene	9/30/96	1	2.0	BQL
o-Xylene	9/30/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	38	95
Trifluorotoluene	40	38	95

Comments:
All values corrected for dilution.

Reviewed By: Ma

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: EB-01-SS
Client Project ID: NC0360.211
Lab Sample ID: 15151
Lab Project ID: G149-40

Analyzed By: RNP
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/30/96	1	1.0	BQL
Bromobenzene	9/30/96	1	2.0	BQL
Bromochloromethane	9/30/96	1	1.0	BQL
Bromodichloromethane	9/30/96	1	1.0	BQL
Bromoform	9/30/96	1	2.0	BQL
Bromomethane	9/30/96	1	2.0	BQL
n-Butylbenzene	9/30/96	1	1.0	BQL
sec-Butylbenzene	9/30/96	1	1.0	BQL
tert-Butylbenzene	9/30/96	1	1.0	BQL
Carbon tetrachloride	9/30/96	1	1.0	BQL
Chlorobenzene	9/30/96	1	1.0	BQL
Chloroethane	9/30/96	1	1.0	BQL
Chloroform	9/30/96	1	1.0	BQL
Chloromethane	9/30/96	1	1.0	BQL
2-Chlorotoluene	9/30/96	1	1.0	BQL
4-Chlorotoluene	9/30/96	1	2.0	BQL
Dibromochloromethane	9/30/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	9/30/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	9/30/96	1	1.0	BQL
Dibromomethane	9/30/96	1	1.0	BQL
1,2-Dichlorobenzene	9/30/96	1	1.0	BQL
1,3-Dichlorobenzene	9/30/96	1	1.0	BQL
1,4-Dichlorobenzene	9/30/96	1	1.0	BQL
Dichlorodifluoromethane	9/30/96	1	5.0	BQL
1,1-Dichloroethane	9/30/96	1	1.0	BQL
1,2-Dichloroethane	9/30/96	1	1.0	BQL
1,1-Dichloroethene	9/30/96	1	1.0	BQL
cis-1,2-Dichloroethene	9/30/96	1	1.0	BQL
trans-1,2-Dichloroethene	9/30/96	1	1.0	BQL
1,2-Dichloropropane	9/30/96	1	1.0	BQL
2,2-Dichloropropane	9/30/96	1	2.0	BQL
cis-1,3-Dichloropropene	9/30/96	1	1.0	BQL
trans-1,3-Dichloropropene	9/30/96	1	1.0	BQL
Diisopropyl ether (DIPE)	9/30/96	1	1.0	BQL
Ethylbenzene	9/30/96	1	1.0	BQL
Hexachlorobutadiene	9/30/96	1	1.0	BQL
Isopropylbenzene	9/30/96	1	1.0	BQL
p-Isopropyltoluene	9/30/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	9/30/96	1	1.0	BQL
Methylene Chloride	9/30/96	1	5.0	BQL
Naphthalene	9/30/96	1	1.0	BQL
n-Propylbenzene	9/30/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: EB-01-SS
Client Project ID: NC0360.211
Lab Sample ID: 15151
Lab Project ID: G149-40

Analyzed By: RNP
Date Collected: 9/19/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/30/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	9/30/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	9/30/96	1	1.0	BQL
Tetrachloroethene	9/30/96	1	1.0	BQL
Toluene	9/30/96	1	1.0	BQL
1,2,3-Trichlorobenzene	9/30/96	1	1.0	BQL
1,2,4-Trichlorobenzene	9/30/96	1	1.0	BQL
1,1,1-Trichloroethane	9/30/96	1	1.0	BQL
1,1,2-Trichloroethane	9/30/96	1	1.0	BQL
Trichloroethene	9/30/96	1	1.0	BQL
Trichlorofluromethane	9/30/96	1	1.0	BQL
1,2,3-Trichloropropane	9/30/96	1	2.0	BQL
1,2,4-Trimethylbenzene	9/30/96	1	1.0	BQL
1,3,5-Trimethylbenzene	9/30/96	1	2.0	BQL
Vinyl Chloride	9/30/96	1	1.0	BQL
m/p-Xylene	9/30/96	1	2.0	BQL
o-Xylene	9/30/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	37	92
Trifluorotoluene	40	38	95

Comments:
All values corrected for dilution.

Reviewed By: Mz

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: VBLK100296
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-40 %Solids: 100.0

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	10/2/96	1	1.0	BQL
Bromobenzene	10/2/96	1	2.0	BQL
Bromochloromethane	10/2/96	1	1.0	BQL
Bromodichloromethane	10/2/96	1	1.0	BQL
Bromoform	10/2/96	1	2.0	BQL
Bromomethane	10/2/96	1	2.0	BQL
n-Butylbenzene	10/2/96	1	1.0	BQL
sec-Butylbenzene	10/2/96	1	1.0	BQL
tert-Butylbenzene	10/2/96	1	1.0	BQL
Carbon tetrachloride	10/2/96	1	1.0	BQL
Chlorobenzene	10/2/96	1	1.0	BQL
Chloroethane	10/2/96	1	1.0	BQL
Chloroform	10/2/96	1	1.0	BQL
Chloromethane	10/2/96	1	1.0	BQL
2-Chlorotoluene	10/2/96	1	1.0	BQL
4-Chlorotoluene	10/2/96	1	2.0	BQL
Dibromochloromethane	10/2/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	10/2/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	10/2/96	1	1.0	BQL
Dibromomethane	10/2/96	1	1.0	BQL
1,2-Dichlorobenzene	10/2/96	1	1.0	BQL
1,3-Dichlorobenzene	10/2/96	1	1.0	BQL
1,4-Dichlorobenzene	10/2/96	1	1.0	BQL
Dichlorodifluoromethane	10/2/96	1	5.0	BQL
1,1-Dichloroethane	10/2/96	1	1.0	BQL
1,2-Dichloroethane	10/2/96	1	1.0	BQL
1,1-Dichloroethene	10/2/96	1	1.0	BQL
cis-1,2-Dichloroethene	10/2/96	1	1.0	BQL
trans-1,2-Dichloroethene	10/2/96	1	1.0	BQL
1,2-Dichloropropane	10/2/96	1	1.0	BQL
2,2-Dichloropropane	10/2/96	1	2.0	BQL
cis-1,3-Dichloropropene	10/2/96	1	1.0	BQL
trans-1,3-Dichloropropene	10/2/96	1	1.0	BQL
Diisopropyl ether (DIPE)	10/2/96	1	1.0	BQL
Ethylbenzene	10/2/96	1	1.0	BQL
Hexachlorobutadiene	10/2/96	1	1.0	BQL
Isopropylbenzene	10/2/96	1	1.0	BQL
p-Isopropyltoluene	10/2/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	10/2/96	1	1.0	BQL
Methylene Chloride	10/2/96	1	5.0	BQL
Naphthalene	10/2/96	1	1.0	BQL
n-Propylbenzene	10/2/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: VBLK100296
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-40 %Solids: 100.0

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	10/2/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	10/2/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	10/2/96	1	1.0	BQL
Tetrachloroethene	10/2/96	1	1.0	BQL
Toluene	10/2/96	1	1.0	BQL
1,2,3-Trichlorobenzene	10/2/96	1	1.0	BQL
1,2,4-Trichlorobenzene	10/2/96	1	1.0	BQL
1,1,1-Trichloroethane	10/2/96	1	1.0	BQL
1,1,2-Trichloroethane	10/2/96	1	1.0	BQL
Trichloroethene	10/2/96	1	1.0	BQL
Trichloroflurometh ane	10/2/96	1	1.0	BQL
1,2,3-Trichloropropane	10/2/96	1	2.0	BQL
1,2,4-Trimethylbenzene	10/2/96	1	1.0	BQL
1,3,5-Trimethylbenzene	10/2/96	1	2.0	BQL
Vinyl Chloride	10/2/96	1	1.0	BQL
m/p-Xylene	10/2/96	1	2.0	BQL
o-Xylene	10/2/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	40	100
Trifluorotoluene	40	40	100

Comments:
All values corrected for dilution and %solids.

Reviewed By: RNR

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: VBLK092696
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-40 %Solids: 100.0

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	9/26/96	1	1.0	BQL
Bromobenzene	9/26/96	1	2.0	BQL
Bromochloromethane	9/26/96	1	1.0	BQL
Bromodichloromethane	9/26/96	1	1.0	BQL
Bromoform	9/26/96	1	2.0	BQL
Bromomethane	9/26/96	1	2.0	BQL
n-Butylbenzene	9/26/96	1	1.0	BQL
sec-Butylbenzene	9/26/96	1	1.0	BQL
tert-Butylbenzene	9/26/96	1	1.0	BQL
Carbon tetrachloride	9/26/96	1	1.0	BQL
Chlorobenzene	9/26/96	1	1.0	BQL
Chloroethane	9/26/96	1	1.0	BQL
Chloroform	9/26/96	1	1.0	BQL
Chloromethane	9/26/96	1	1.0	BQL
2-Chlorotoluene	9/26/96	1	1.0	BQL
4-Chlorotoluene	9/26/96	1	2.0	BQL
Dibromochloromethane	9/26/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	9/26/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	9/26/96	1	1.0	BQL
Dibromomethane	9/26/96	1	1.0	BQL
1,2-Dichlorobenzene	9/26/96	1	1.0	BQL
1,3-Dichlorobenzene	9/26/96	1	1.0	BQL
1,4-Dichlorobenzene	9/26/96	1	1.0	BQL
Dichlorodifluoromethane	9/26/96	1	5.0	BQL
1,1-Dichloroethane	9/26/96	1	1.0	BQL
1,2-Dichloroethane	9/26/96	1	1.0	BQL
1,1-Dichloroethene	9/26/96	1	1.0	BQL
cis-1,2-Dichloroethene	9/26/96	1	1.0	BQL
trans-1,2-Dichloroethene	9/26/96	1	1.0	BQL
1,2-Dichloropropane	9/26/96	1	1.0	BQL
2,2-Dichloropropane	9/26/96	1	2.0	BQL
cis-1,3-Dichloropropene	9/26/96	1	1.0	BQL
trans-1,3-Dichloropropene	9/26/96	1	1.0	BQL
Diisopropyl ether (DIPE)	9/26/96	1	1.0	BQL
Ethylbenzene	9/26/96	1	1.0	BQL
Hexachlorobutadiene	9/26/96	1	1.0	BQL
Isopropylbenzene	9/26/96	1	1.0	BQL
p-Isopropyltoluene	9/26/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	9/26/96	1	1.0	BQL
Methylene Chloride	9/26/96	1	5.0	BQL
Naphthalene	9/26/96	1	1.0	BQL
n-Propylbenzene	9/26/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: VBLK092696
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-40 %Solids: 100.0

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	9/26/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	9/26/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	9/26/96	1	1.0	BQL
Tetrachloroethene	9/26/96	1	1.0	BQL
Toluene	9/26/96	1	1.0	BQL
1,2,3-Trichlorobenzene	9/26/96	1	1.0	BQL
1,2,4-Trichlorobenzene	9/26/96	1	1.0	BQL
1,1,1-Trichloroethane	9/26/96	1	1.0	BQL
1,1,2-Trichloroethane	9/26/96	1	1.0	BQL
Trichloroethene	9/26/96	1	1.0	BQL
Trichloroflurometh ane	9/26/96	1	1.0	BQL
1,2,3-Trichloropropane	9/26/96	1	2.0	BQL
1,2,4-Trimethylbenzene	9/26/96	1	1.0	BQL
1,3,5-Trimethylbenzene	9/26/96	1	2.0	BQL
Vinyl Chloride	9/26/96	1	1.0	BQL
m/p-Xylene	9/26/96	1	2.0	BQL
o-Xylene	9/26/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	39	98
Trifluorotoluene	40	41	102

Comments:
All values corrected for dilution and %solids.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: VBLK093096
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-40

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/30/96	1	1.0	BQL
Bromobenzene	9/30/96	1	2.0	BQL
Bromochloromethane	9/30/96	1	1.0	BQL
Bromodichloromethane	9/30/96	1	1.0	BQL
Bromoform	9/30/96	1	2.0	BQL
Bromomethane	9/30/96	1	2.0	BQL
n-Butylbenzene	9/30/96	1	1.0	BQL
sec-Butylbenzene	9/30/96	1	1.0	BQL
tert-Butylbenzene	9/30/96	1	1.0	BQL
Carbon tetrachloride	9/30/96	1	1.0	BQL
Chlorobenzene	9/30/96	1	1.0	BQL
Chloroethane	9/30/96	1	1.0	BQL
Chloroform	9/30/96	1	1.0	BQL
Chloromethane	9/30/96	1	1.0	BQL
2-Chlorotoluene	9/30/96	1	1.0	BQL
4-Chlorotoluene	9/30/96	1	2.0	BQL
Dibromochloromethane	9/30/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	9/30/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	9/30/96	1	1.0	BQL
Dibromomethane	9/30/96	1	1.0	BQL
1,2-Dichlorobenzene	9/30/96	1	1.0	BQL
1,3-Dichlorobenzene	9/30/96	1	1.0	BQL
1,4-Dichlorobenzene	9/30/96	1	1.0	BQL
Dichlorodifluoromethane	9/30/96	1	5.0	BQL
1,1-Dichloroethane	9/30/96	1	1.0	BQL
1,2-Dichloroethane	9/30/96	1	1.0	BQL
1,1-Dichloroethene	9/30/96	1	1.0	BQL
cis-1,2-Dichloroethene	9/30/96	1	1.0	BQL
trans-1,2-Dichloroethene	9/30/96	1	1.0	BQL
1,2-Dichloropropane	9/30/96	1	1.0	BQL
2,2-Dichloropropane	9/30/96	1	2.0	BQL
cis-1,3-Dichloropropene	9/30/96	1	1.0	BQL
trans-1,3-Dichloropropene	9/30/96	1	1.0	BQL
Diisopropyl ether (DIPE)	9/30/96	1	1.0	BQL
Ethylbenzene	9/30/96	1	1.0	BQL
Hexachlorobutadiene	9/30/96	1	1.0	BQL
Isopropylbenzene	9/30/96	1	1.0	BQL
p-Isopropyltoluene	9/30/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	9/30/96	1	1.0	BQL
Methylene Chloride	9/30/96	1	5.0	BQL
Naphthalene	9/30/96	1	1.0	BQL
n-Propylbenzene	9/30/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: VBLK093096
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-40

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/30/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	9/30/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	9/30/96	1	1.0	BQL
Tetrachloroethene	9/30/96	1	1.0	BQL
Toluene	9/30/96	1	1.0	BQL
1,2,3-Trichlorobenzene	9/30/96	1	1.0	BQL
1,2,4-Trichlorobenzene	9/30/96	1	1.0	BQL
1,1,1-Trichloroethane	9/30/96	1	1.0	BQL
1,1,2-Trichloroethane	9/30/96	1	1.0	BQL
Trichloroethene	9/30/96	1	1.0	BQL
Trichloroflurometh ane	9/30/96	1	1.0	BQL
1,2,3-Trichloropropane	9/30/96	1	2.0	BQL
1,2,4-Trimethylbenzene	9/30/96	1	1.0	BQL
1,3,5-Trimethylbenzene	9/30/96	1	2.0	BQL
Vinyl Chloride	9/30/96	1	1.0	BQL
m/p-Xylene	9/30/96	1	2.0	BQL
o-Xylene	9/30/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	36	90
Trifluorotoluene	40	38	95

Comments:
All values corrected for dilution.

Reviewed By: MW

Flags:
BQL = Below Quantitation Limit

Results for MS/MSD
by GC 8021

Client Sample ID: SS-5-4
Client Project ID: NC0360.211
Lab Sample ID: 15147
Lab Project ID: G149-40
Analyzed By: CKC

%Solids: 93.8

Date Analyzed: 10/02/96
Date Collected: 09/19/96
Date Received: 09/21/96
Matrix: Soil

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
Benzene	1.14	21.3	101.8	92.1	55.0	145.0	10.0	30
Bromobenzene	BQL	21.3	96.0	80.3	59.6	140.4	17.8	30
Bromochloromethane	BQL	21.3	110.7	103.3	71.6	128.4	6.9	30
Bromodichloromethane	BQL	21.3	110.0	97.4	59.4	140.6	12.1	30
Bromoform	BQL	21.3	113.9	94.7	61.5	138.5	18.4	30
Bromomethane	BQL	21.3	98.0	89.9	42.7	157.3	8.6	30
n-Butylbenzene	BQL	21.3	76.1	59.6	43.3	156.7	24.2	30
sec-Butylbenzene	BQL	21.3	80.2	71.3	25.0	175.0	11.7	30
tert-Butylbenzene	BQL	21.3	84.6	67.0	46.0	154.0	23.2	30
Carbon tetrachloride	BQL	21.3	53.9	41.3	24.1	175.9	26.6	30
Chlorobenzene	BQL	21.3	95.9	82.2	34.6	165.4	15.4	30
Chloroethane	BQL	21.3	105.1	91.3	39.1	160.9	14.1	30
Chloroform	BQL	21.3	106.0	97.2	50.4	149.6	8.7	30
Chloromethane	BQL	21.3	97.3	86.8	>0	199.4	11.4	30
2-Chlorotoluene	BQL	21.3	113.8	98.2	16.1	183.9	14.7	30
4-Chlorotoluene	BQL	21.3	86.7	66.8	20.3	179.7	26.0	30
Dibromochloromethane	BQL	21.3	110.9	97.5	61.7	138.3	12.8	30
1,2-Dibromo-3-chloropropane	BQL	21.3	112.3	78.1	55.7	144.3	35.9 *	30
1,2-Dibromoethane (EDB)	BQL	21.3	114.6	95.9	65.4	134.6	17.8	30
Dibromomethane	BQL	21.3	114.6	104.1	70.5	129.5	9.6	30
1,2-Dichlorobenzene	BQL	21.3	86.9	70.4	21.6	178.4	21.0	30
1,3-Dichlorobenzene	BQL	21.3	80.4	63.8	20.9	179.1	23.0	30
1,4-Dichlorobenzene	BQL	21.3	84.3	64.1	27.9	172.1	27.2	30
Dichlorodifluoromethane	BQL	21.3	93.6	87.3	43.7	156.3	6.9	30
1,1-Dichloroethane	BQL	21.3	103.7	95.9	55.6	144.4	7.9	30
1,2-Dichloroethane	BQL	21.3	115.8	105.3	74.3	125.7	9.5	30
1,1-Dichloroethene	BQL	21.3	96.9	88.8	42.4	157.6	8.7	30
cis-1,2-Dichloroethene	BQL	21.3	97.6	89.2	63.7	136.3	9.0	30
trans-1,2-Dichloroethene	BQL	21.3	99.8	90.4	43.8	156.2	9.9	30
1,2-Dichloropropane	BQL	21.3	108.7	98.8	59.8	140.2	9.5	30
2,2-Dichloropropane	BQL	21.3	53.9	41.3	24.1	175.9	26.6	30
cis-1,3-Dichloropropene	BQL	21.3	106.6	95.4	41.5	158.5	11.1	30
trans-1,3-Dichloropropene	BQL	21.3	106.7	93.4	57.7	142.3	13.3	30
Diisopropyl ether	BQL	21.3	104.8	95.9	69.1	130.9	8.9	30
Ethylbenzene	BQL	21.3	103.7	86.5	42.9	157.1	18.1	30
Hexachlorobutadiene	BQL	21.3	30.4	13.8	8.2	191.8	75.3 *	30
Isopropylbenzene	BQL	21.3	97.3	113.5	39.3	160.7	15.4	30
p-Isopropyltoluene	BQL	21.3	111.7	107.2	42.0	158.0	4.2	30
Methyl-tert butyl ether	BQL	21.3	113.2	105.5	21.8	178.2	7.1	30
Methylene Chloride	BQL	21.3	96.4	89.0	>0	335.3	8.0	30
Naphthalene	1.20	21.3	90.4	73.0	40.2	159.8	21.2	30
n-Propylbenzene	BQL	21.3	63.5	62.0	38.9	161.1	2.4	30
Styrene	BQL	21.3	94.4	80.2	>0	213.9	16.3	30
1,1,1,2-Tertrachloroethane	BQL	21.3	108.3	92.4	40.3	159.7	15.8	30
1,1,2,2-Tertrachloroethane	BQL	21.3	2.5	2.5	>0	263.8	0.0	30
Tetrachloroethene	BQL	21.3	99.4	83.6	44.0	156.0	17.3	30
Toluene	1.33	21.3	99.0	88.6	50.4	149.6	11.1	30
1,2,3-Trichlorobenzene	BQL	21.3	55.5	36.7	26.2	173.8	40.9 *	30
1,2,4-Trichlorobenzene	BQL	21.3	55.1	37.4	19.5	180.5	38.3 *	30
1,1,1-Trichloroethane	BQL	21.3	99.6	90.4	35.3	164.7	9.6	30

Results for MS/MSD
by GC 8021

Client Sample ID: SS-5-4
Client Project ID: NC0360.211
Lab Sample ID: 15147
Lab Project ID: G149-40
Analyzed By: CKC

%Solids: 93.8

Date Analyzed: 10/02/96
Date Collected: 09/19/96
Date Received: 09/21/96
Matrix: Soil

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
1,1,2-Trichloroethane	BQL	21.3	117.1	105.0	67.7	132.3	10.9	30
Trichloroethene	BQL	21.3	97.4	85.9	40.8	159.2	12.5	30
Trichlorofluromethane	BQL	21.3	96.9	86.1	27.0	173.0	11.9	30
1,2,3-Trichloropropane	BQL	21.3	96.0	80.3	59.6	140.4	17.8	30
1,2,4-Trimethylbenzene	BQL	21.3	87.7	68.6	35.4	164.6	24.4	30
1,3,5-Trimethylbenzene	BQL	21.3	93.6	108.4	27.5	172.5	14.7	30
Vinyl Chloride	BQL	21.3	95.3	89.4	52.8	147.2	6.3	30
m/p-Xylene	2.17	42.6	92.3	79.1	43.0	157.0	15.3	30
o-Xylene	BQL	21.3	94.4	80.2	63.1	136.9	16.3	30

Comments:

Concentrations are corrected for dry weight.

Flags:

* = Out of limits.
NA = Not applicable
BQL = Below quantitation limit.

Reviewed By: [illegible]

Results for Labortory Control Spike (LCS)

by GC 8021

Client Sample ID: LCS100296
Client Project ID: NC0360.211
Lab Sample ID: None assigned
Lab Project ID: G149-40

%Solids: 100.0

Analyst: CKC
Date Collected: Not applicable
Date Received: Not applicable
Matrix: Soil

	Spiked	LCS	Limits Lower	Limits Upper
Benzene	20	114.5	41.6	158.4
Bromobenzene	20	112.6	13.9	186.1
Bromochloromethane	20	112.6	>0	201.1
Bromodichloromethane	20	112.6	8.1	191.9
Bromoform	20	106.1	18.5	181.5
Bromomethane	20	97.5	17.5	182.5
n-Butylbenzene	20	54.5	33.3	166.7
sec-Butylbenzene	20	101.5	37.3	162.7
tert-Butylbenzene	20	108.4	35.9	164.1
Carbon tetrachloride	20	74.2	15.2	184.8
Chlorobenzene	20	107.2	13.6	186.4
Chloroethane	20	100.3	13.6	186.4
Chloroform	20	114.5	7.4	192.6
Chloromethane	20	100.3	10.9	189.1
2-Chlorotoluene	20	133.0	10.9	189.1
4-Chlorotoluene	20	105.9	6.8	193.2
Dibromochloromethane	20	114.3	8.1	191.9
1,2-Dibromo-3-chloropropane	20	108.8	26.3	173.7
1,2-Dibromoethane (EDB)	20	112.1	>0	206.3
Dibromomethane	20	112.1	>0	202.5
1,2-Dichlorobenzene	20	108.9	5.3	194.7
1,3-Dichlorobenzene	20	133.0	9.9	190.1
1,4-Dichlorobenzene	20	105.9	0.7	199.3
Dichlorodifluoromethane	20	96.1	6.8	193.2
1,1-Dichloroethane	20	112.2	10.0	190.0
1,2-Dichloroethane	20	117.0	>0	203.0
1,1-Dichloroethene	20	111.9	16.4	183.6
cis-1,2-Dichloroethene	20	113.9	19.4	180.6
trans-1,2-Dichloroethene	20	112.5	11.7	188.3
1,2-Dichloropropane	20	113.7	9.7	190.3
2,2-Dichloropropane	20	113.9	15.2	184.8
cis-1,3-Dichloropropene	20	112.4	5.1	194.9
trans-1,3-Dichloropropene	20	114.1	8.5	191.5
Diisopropyl ether	20	112.2	30.1	169.9
Ethylbenzene	20	119.1	41.5	158.5
Hexachlorobutadiene	20	113.8	11.3	188.7
Isopropylbenzene	20	111.3	40.4	159.6
p-Isopropyltoluene	20	53.7	41.4	158.6
Methyl-tert butyl ether	20	107.3	34.6	165.4
Methylene Chloride	20	84.1	>0	261.9
Naphthalene	20	109.1	37.6	162.4
n-Propylbenzene	20	93.8	41.5	158.5
Styrene	20	109.8	10.2	189.8
1,1,1,2-Tertrachloroethane	20	57.4	6.5	193.5
1,1,2,2-Tertrachloroethane	20	147.0	>0	209.1
Tetrachloroethene	20	118.3	77.6	122.4
Toluene	20	119.1	40.3	159.7
1,2,3-Trichlorobenzene	20	104.6	3.5	196.5
1,2,4-Trichlorobenzene	20	109.9	16.8	183.2
1,1,1-Trichloroethane	20	114.7	26.5	173.5

Results for Labortory Control Spike (LCS)

by GC 8021

Client Sample ID: LCS100296
Client Project ID: NC0360.211
Lab Sample ID: None assigned
Lab Project ID: G149-40

Analyst: CKC
Date Collected: Not applicable
Date Received: Not applicable
%Solids: 100.0
Matrix: Soil

	Spiked	LCS	Limits Lower	Limits Upper
1,1,2-Trichloroethane	20	115.5	7.9	192.1
Trichloroethene	20	115.3	21.9	178.1
Trichloroflurometh ane	20	109.0	6.8	193.2
1,2,3-Trichloropropane	20	98.0	62.7	137.3
1,2,4-Trimethylbenzene	20	107.9	37.7	162.3
1,3,5-Trimethylbenzene	20	107.6	42.1	157.9
Vinyl Chloride	20	108.5	14.5	185.5
m/p-Xylene	40	109.0	>0	239.5
o-Xylene	20	109.8	35.6	164.4

Comments:

Concentration values are on column amount.

Flags:

* = Out of limits.
NA = Not applicable

Reviewed By: MZ

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-1
Client Project ID: NC0360.211
Lab Sample ID: 15131
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/27/96	1	0.5	BQL
Bromobenzene	9/27/96	1	0.5	BQL
Bromochloromethane	9/27/96	1	0.5	BQL
Bromodichloromethane	9/27/96	1	0.5	BQL
Bromoform	9/27/96	1	0.5	BQL
Bromomethane	9/27/96	1	0.5	BQL
n-Butylbenzene	9/27/96	1	0.5	BQL
sec-Butylbenzene	9/27/96	1	0.5	BQL
tert-Butylbenzene	9/27/96	1	0.5	BQL
Carbon tetrachloride	9/27/96	1	0.5	BQL
Chlorobenzene	9/27/96	1	0.5	BQL
Chloroethane	9/27/96	1	0.5	BQL
Chloroform	9/27/96	1	0.5	BQL
Chloromethane	9/27/96	1	0.5	BQL
2-Chlorotoluene	9/27/96	1	0.5	BQL
4-Chlorotoluene	9/27/96	1	0.5	BQL
Dibromochloromethane	9/27/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	9/27/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	9/27/96	1	0.5	BQL
Dibromomethane	9/27/96	1	0.5	BQL
1,2-Dichlorobenzene	9/27/96	1	0.5	BQL
1,3-Dichlorobenzene	9/27/96	1	0.5	BQL
1,4-Dichlorobenzene	9/27/96	1	0.5	BQL
Dichlorodifluoromethane	9/27/96	1	0.5	BQL
1,1-Dichloroethane	9/27/96	1	0.5	BQL
1,2-Dichloroethane	9/27/96	1	0.5	BQL
1,1-Dichloroethene	9/27/96	1	0.5	BQL
cis-1,2-Dichloroethene	9/27/96	1	0.5	BQL
trans-1,2-Dichloroethene	9/27/96	1	0.5	BQL
1,2-Dichloropropane	9/27/96	1	0.5	BQL
2,2-Dichloropropane	9/27/96	1	0.5	BQL
cis-1,3-Dichloropropane	9/27/96	1	0.5	BQL
trans-1,3-Dichloropropane	9/27/96	1	0.5	BQL
Diisopropyl ether	9/27/96	1	0.5	BQL
Ethylbenzene	9/27/96	1	0.5	BQL
Hexachlorobutadiene	9/27/96	1	0.5	BQL
Isopropylbenzene	9/27/96	1	0.5	BQL
p-Isopropyltoluene	9/27/96	1	0.5	BQL
Methyl-tert butyl ether	9/27/96	1	0.5	BQL
Methylene Chloride	9/27/96	1	0.5	BQL
Naphthalene	9/27/96	1	0.5	BQL
n-Propylbenzene	9/27/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-1
Client Project ID: NC0360.211
Lab Sample ID: 15131
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/27/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	9/27/96	1	0.5	BQL
1,1,2,2-Tertrachloroethane	9/27/96	1	0.5	BQL
Tetrachloroethene	9/27/96	1	0.5	BQL
Toluene	9/27/96	1	0.5	BQL
1,2,3-Trichlorobenzene	9/27/96	1	0.5	BQL
1,2,4-Trichlorobenzene	9/27/96	1	0.5	BQL
1,1,1-Trichloroethane	9/27/96	1	0.5	BQL
1,1,2-Trichloroethane	9/27/96	1	0.5	BQL
Trichloroethene	9/27/96	1	0.5	BQL
Trichloroflurometh ane	9/27/96	1	0.5	BQL
1,2,3-Trichloropropane	9/27/96	1	0.5	BQL
1,2,4-Trimethylbenzene	9/27/96	1	0.5	BQL
1,3,5-Trimethylbenzene	9/27/96	1	0.5	BQL
Vinyl Chloride	9/27/96	1	0.5	BQL
m/p-Xylene	9/27/96	1	0.5	BQL
o-Xylene	9/27/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.8	96
Trifluorotoluene	5	4.9	98

Comments:
All values corrected for dilution.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-2
Client Project ID: NC0360.211
Lab Sample ID: 15132
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/27/96	1	0.5	BQL
Bromobenzene	9/27/96	1	0.5	BQL
Bromochloromethane	9/27/96	1	0.5	BQL
Bromodichloromethane	9/27/96	1	0.5	BQL
Bromoform	9/27/96	1	0.5	BQL
Bromomethane	9/27/96	1	0.5	BQL
n-Butylbenzene	9/27/96	1	0.5	BQL
sec-Butylbenzene	9/27/96	1	0.5	BQL
tert-Butylbenzene	9/27/96	1	0.5	BQL
Carbon tetrachloride	9/27/96	1	0.5	BQL
Chlorobenzene	9/27/96	1	0.5	BQL
Chloroethane	9/27/96	1	0.5	BQL
Chloroform	9/27/96	1	0.5	BQL
Chloromethane	9/27/96	1	0.5	BQL
2-Chlorotoluene	9/27/96	1	0.5	BQL
4-Chlorotoluene	9/27/96	1	0.5	BQL
Dibromochloromethane	9/27/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	9/27/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	9/27/96	1	0.5	BQL
Dibromomethane	9/27/96	1	0.5	BQL
1,2-Dichlorobenzene	9/27/96	1	0.5	BQL
1,3-Dichlorobenzene	9/27/96	1	0.5	BQL
1,4-Dichlorobenzene	9/27/96	1	0.5	BQL
Dichlorodifluoromethane	9/27/96	1	0.5	BQL
1,1-Dichloroethane	9/27/96	1	0.5	BQL
1,2-Dichloroethane	9/27/96	1	0.5	BQL
1,1-Dichloroethene	9/27/96	1	0.5	BQL
cis-1,2-Dichloroethene	9/27/96	1	0.5	**2**
trans-1,2-Dichloroethene	9/27/96	1	0.5	BQL
1,2-Dichloropropane	9/27/96	1	0.5	BQL
2,2-Dichloropropane	9/27/96	1	0.5	BQL
cis-1,3-Dichloropropane	9/27/96	1	0.5	BQL
trans-1,3-Dichloropropane	9/27/96	1	0.5	BQL
Diisopropyl ether	9/27/96	1	0.5	BQL
Ethylbenzene	9/27/96	1	0.5	BQL
Hexachlorobutadiene	9/27/96	1	0.5	BQL
Isopropylbenzene	9/27/96	1	0.5	BQL
p-Isopropyltoluene	9/27/96	1	0.5	BQL
Methyl-tert butyl ether	9/27/96	1	0.5	**0.8**
Methylene Chloride	9/27/96	1	0.5	BQL
Naphthalene	9/27/96	1	0.5	**0.6**
n-Propylbenzene	9/27/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-2
Client Project ID: NC0360.211
Lab Sample ID: 15132
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)	
Styrene	9/27/96	1	0.5	BQL	
1,1,1,2-Tertrachloroethane	9/27/96	1	0.5	BQL	
1,1,2,2-Tertrachloroethane	9/27/96	1	0.5	BQL	
Tetrachloroethene	9/27/96	1	0.5	BQL	
Toluene	9/27/96	1	0.5	BQL	
1,2,3-Trichlorobenzene	9/27/96	1	0.5	BQL	
1,2,4-Trichlorobenzene	9/27/96	1	0.5	BQL	
1,1,1-Trichloroethane	9/27/96	1	0.5	BQL	
1,1,2-Trichloroethane	9/27/96	1	0.5	BQL	
Trichloroethene	9/27/96	1	0.5		2
Trichlorofluromethane	9/27/96	1	0.5	BQL	
1,2,3-Trichloropropane	9/27/96	1	0.5	BQL	
1,2,4-Trimethylbenzene	9/27/96	1	0.5	BQL	
1,3,5-Trimethylbenzene	9/27/96	1	0.5	BQL	
Vinyl Chloride	9/27/96	1	0.5	BQL	
m/p-Xylene	9/27/96	1	0.5	BQL	
o-Xylene	9/27/96	1	0.5	BQL	

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.9	98
Trifluorotoluene	5	4.8	96

Comments:
All values corrected for dilution.

Reviewed By: MM

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 6230D

Client Sample ID: GW-3
Client Project ID: NC0360.211
Lab Sample ID: 15133
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/27/96	1	0.5	BQL
Bromobenzene	9/27/96	1	0.5	BQL
Bromochloromethane	10/4/96	10	5	BQL
Bromodichloromethane	10/4/96	10	5	BQL
Bromoform	10/4/96	10	5	BQL
Bromomethane	10/4/96	10	5	BQL
n-Butylbenzene	9/27/96	1	0.5	BQL
sec-Butylbenzene	9/27/96	1	0.5	BQL
tert-Butylbenzene	9/27/96	1	0.5	BQL
Carbon tetrachloride	10/4/96	10	5	BQL
Chlorobenzene	10/4/96	10	5	BQL
Chloroethane	10/4/96	10	5	BQL
Chloroform	10/4/96	10	5	BQL
Chloromethane	10/4/96	10	5	BQL
2-Chlorotoluene	9/27/96	1	0.5	BQL
4-Chlorotoluene	9/27/96	1	0.5	BQL
Dibromochloromethane	10/4/96	10	5	BQL
1,2-Dibromo-3-chloropropane	10/4/96	10	5	BQL
1,2-Dibromoethane (EDB)	10/4/96	10	5	BQL
Dibromomethane	10/4/96	10	5	BQL
1,2-Dichlorobenzene	10/4/96	10	5	BQL
1,3-Dichlorobenzene	10/4/96	10	5	BQL
1,4-Dichlorobenzene	10/4/96	10	5	BQL
Dichlorodifluoromethane	10/4/96	10	5	BQL
1,1-Dichloroethane	10/4/96	10	5	BQL
1,2-Dichloroethane	10/4/96	10	5	BQL
1,1-Dichloroethene	10/4/96	10	5	BQL
cis-1,2-Dichloroethene	10/4/96	10	5	**18**
trans-1,2-Dichloroethene	10/4/96	10	5	BQL
1,2-Dichloropropane	10/4/96	10	5	BQL
2,2-Dichloropropane	10/4/96	10	5	BQL
cis-1,3-Dichloropropane	10/4/96	10	5	BQL
trans-1,3-Dichloropropane	10/4/96	10	5	BQL
Diisopropyl ether	10/4/96	1	0.5	BQL
Ethylbenzene	9/27/96	1	0.5	BQL
Hexachlorobutadiene	10/4/96	10	5	BQL
Isopropylbenzene	9/27/96	1	0.5	BQL
p-Isopropyltoluene	9/27/96	1	0.5	BQL
Methyl-tert butyl ether	10/4/96	1	0.5	**0.7**
Methylene Chloride	10/4/96	10	5	BQL
Naphthalene	9/27/96	1	0.5	BQL
n-Propylbenzene	9/27/96	1	0.5	BQL

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-3
Client Project ID: NC0360.211
Lab Sample ID: 15133
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/27/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	10/4/96	10	5	BQL
1,1,2,2-Tertrachloroethane	10/4/96	10	5	BQL
Tetrachloroethene	10/4/96	10	5	BQL
Toluene	9/27/96	1	0.5	BQL
1,2,3-Trichlorobenzene	10/4/96	10	5	BQL
1,2,4-Trichlorobenzene	10/4/96	10	5	BQL
1,1,1-Trichloroethane	10/4/96	10	5	BQL
1,1,2-Trichloroethane	10/4/96	10	5	BQL
Trichloroethene	10/4/96	10	5	99
Trichlorofluromethane	10/4/96	10	5	BQL
1,2,3-Trichloropropane	10/4/96	10	5	BQL
1,2,4-Trimethylbenzene	9/27/96	1	0.5	BQL
1,3,5-Trimethylbenzene	9/27/96	1	0.5	BQL
Vinyl Chloride	10/4/96	10	5	BQL
m/p-Xylene	9/27/96	1	0.5	BQL
o-Xylene	9/27/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.6	92
Trifluorotoluene	5	4.9	98

Comments:
All values corrected for dilution.

Reviewed By: MN

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-4
Client Project ID: NC0360.211
Lab Sample ID: 15134
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/27/96	1	0.5	**0.6**
Bromobenzene	9/27/96	1	0.5	BQL
Bromochloromethane	9/27/96	1	0.5	BQL
Bromodichloromethane	9/27/96	1	0.5	BQL
Bromoform	9/27/96	1	0.5	BQL
Bromomethane	9/27/96	1	0.5	BQL
n-Butylbenzene	9/27/96	1	0.5	BQL
sec-Butylbenzene	9/27/96	1	0.5	BQL
tert-Butylbenzene	9/27/96	1	0.5	BQL
Carbon tetrachloride	9/27/96	1	0.5	BQL
Chlorobenzene	9/27/96	1	0.5	BQL
Chloroethane	9/27/96	1	0.5	BQL
Chloroform	9/27/96	1	0.5	BQL
Chloromethane	9/27/96	1	0.5	BQL
2-Chlorotoluene	9/27/96	1	0.5	BQL
4-Chlorotoluene	9/27/96	1	0.5	BQL
Dibromochloromethane	9/27/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	9/27/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	9/27/96	1	0.5	BQL
Dibromomethane	9/27/96	1	0.5	BQL
1,2-Dichlorobenzene	9/27/96	1	0.5	BQL
1,3-Dichlorobenzene	9/27/96	1	0.5	BQL
1,4-Dichlorobenzene	9/27/96	1	0.5	BQL
Dichlorodifluoromethane	9/27/96	1	0.5	BQL
1,1-Dichloroethane	9/27/96	1	0.5	BQL
1,2-Dichloroethane	9/27/96	1	0.5	BQL
1,1-Dichloroethene	9/27/96	1	0.5	BQL
cis-1,2-Dichloroethene	9/27/96	1	0.5	**22**
trans-1,2-Dichloroethene	9/27/96	1	0.5	**0.6**
1,2-Dichloropropane	9/27/96	1	0.5	BQL
2,2-Dichloropropane	9/27/96	1	0.5	BQL
cis-1,3-Dichloropropane	9/27/96	1	0.5	BQL
trans-1,3-Dichloropropane	9/27/96	1	0.5	BQL
Diisopropyl ether	9/27/96	1	0.5	BQL
Ethylbenzene	9/27/96	1	0.5	BQL
Hexachlorobutadiene	9/27/96	1	0.5	BQL
Isopropylbenzene	9/27/96	1	0.5	BQL
p-Isopropyltoluene	9/27/96	1	0.5	BQL
Methyl-tert butyl ether	9/27/96	1	0.5	**2**
Methylene Chloride	9/27/96	1	0.5	BQL
Naphthalene	9/27/96	1	0.5	BQL
n-Propylbenzene	9/27/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-4
Client Project ID: NC0360.211
Lab Sample ID: 15134
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/27/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	9/27/96	1	0.5	BQL
1,1,2,2-Tertrachloroethane	9/27/96	1	0.5	BQL
Tetrachloroethene	9/27/96	1	0.5	BQL
Toluene	9/27/96	1	0.5	BQL
1,2,3-Trichlorobenzene	9/27/96	1	0.5	BQL
1,2,4-Trichlorobenzene	9/27/96	1	0.5	BQL
1,1,1-Trichloroethane	9/27/96	1	0.5	BQL
1,1,2-Trichloroethane	9/27/96	1	0.5	BQL
Trichloroethene	9/27/96	1	0.5	**24**
Trichloroflurometh**ane**	9/27/96	1	0.5	BQL
1,2,3-Trichloropropane	9/27/96	1	0.5	BQL
1,2,4-Trimethylbenzene	9/27/96	1	0.5	BQL
1,3,5-Trimethylbenzene	9/27/96	1	0.5	BQL
Vinyl Chloride	9/27/96	1	0.5	**6**
m/p-Xylene	9/27/96	1	0.5	BQL
o-Xylene	9/27/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.7	94
Trifluorotoluene	5	4.9	98

Comments:
All values corrected for dilution.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-5
Client Project ID: NC0360.211
Lab Sample ID: 15135
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/27/96	1	0.5	**0.6**
Bromobenzene	9/27/96	1	0.5	BQL
Bromochloromethane	10/4/96	10	5	BQL
Bromodichloromethane	10/4/96	10	5	BQL
Bromoform	10/4/96	10	5	BQL
Bromomethane	10/4/96	10	5	BQL
n-Butylbenzene	9/27/96	1	0.5	BQL
sec-Butylbenzene	9/27/96	1	0.5	BQL
tert-Butylbenzene	9/27/96	1	0.5	BQL
Carbon tetrachloride	10/4/96	10	5	BQL
Chlorobenzene	10/4/96	10	5	BQL
Chloroethane	10/4/96	10	5	BQL
Chloroform	10/4/96	10	5	BQL
Chloromethane	10/4/96	10	5	BQL
2-Chlorotoluene	9/27/96	1	0.5	BQL
4-Chlorotoluene	9/27/96	1	0.5	BQL
Dibromochloromethane	10/4/96	10	5	BQL
1,2-Dibromo-3-chloropropane	10/4/96	10	5	BQL
1,2-Dibromoethane (EDB)	10/4/96	10	5	BQL
Dibromomethane	10/4/96	10	5	BQL
1,2-Dichlorobenzene	10/4/96	10	5	BQL
1,3-Dichlorobenzene	10/4/96	10	5	BQL
1,4-Dichlorobenzene	10/4/96	10	5	BQL
Dichlorodifluoromethane	10/4/96	10	5	BQL
1,1-Dichloroethane	10/4/96	10	5	BQL
1,2-Dichloroethane	10/4/96	10	5	BQL
1,1-Dichloroethene	10/4/96	10	5	BQL
cis-1,2-Dichloroethene	10/4/96	10	5	**440**
trans-1,2-Dichloroethene	10/4/96	10	5	BQL
1,2-Dichloropropane	10/4/96	10	5	BQL
2,2-Dichloropropane	10/4/96	10	5	BQL
cis-1,3-Dichloropropane	10/4/96	10	5	BQL
trans-1,3-Dichloropropane	10/4/96	10	5	BQL
Diisopropyl ether	10/4/96	1	0.5	BQL
Ethylbenzene	9/27/96	1	0.5	BQL
Hexachlorobutadiene	10/4/96	10	5	BQL
Isopropylbenzene	9/27/96	1	0.5	BQL
p-Isopropyltoluene	9/27/96	1	0.5	BQL
Methyl-tert butyl ether	10/4/96	1	0.5	**5**
Methylene Chloride	10/4/96	10	5	BQL
Naphthalene	9/27/96	1	0.5	BQL
n-Propylbenzene	9/27/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-5
Client Project ID: NC0360.211
Lab Sample ID: 15135
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/27/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	10/4/96	10	5	BQL
1,1,2,2-Tertrachloroethane	10/4/96	10	5	BQL
Tetrachloroethene	10/4/96	10	5	BQL
Toluene	9/27/96	1	0.5	**0.7**
1,2,3-Trichlorobenzene	10/4/96	10	5	BQL
1,2,4-Trichlorobenzene	10/4/96	10	5	BQL
1,1,1-Trichloroethane	10/4/96	10	5	BQL
1,1,2-Trichloroethane	10/4/96	10	5	BQL
Trichloroethene	10/4/96	10	5	**150**
Trichlorofluromethane	10/4/96	10	5	BQL
1,2,3-Trichloropropane	10/4/96	10	5	BQL
1,2,4-Trimethylbenzene	9/27/96	1	0.5	BQL
1,3,5-Trimethylbenzene	9/27/96	1	0.5	BQL
Vinyl Chloride	10/4/96	10	5	BQL
m/p-Xylene	9/27/96	1	0.5	BQL
o-Xylene	9/27/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.5	90
Trifluorotoluene	5	4.8	96

Comments:
All values corrected for dilution.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-6
Client Project ID: NC0360.211
Lab Sample ID: 15136
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/27/96	1	0.5	BQL
Bromobenzene	9/27/96	1	0.5	BQL
Bromochloromethane	9/27/96	1	0.5	BQL
Bromodichloromethane	9/27/96	1	0.5	BQL
Bromoform	9/27/96	1	0.5	BQL
Bromomethane	9/27/96	1	0.5	BQL
n-Butylbenzene	9/27/96	1	0.5	BQL
sec-Butylbenzene	9/27/96	1	0.5	BQL
tert-Butylbenzene	9/27/96	1	0.5	BQL
Carbon tetrachloride	9/27/96	1	0.5	BQL
Chlorobenzene	9/27/96	1	0.5	BQL
Chloroethane	9/27/96	1	0.5	**3**
Chloroform	9/27/96	1	0.5	BQL
Chloromethane	9/27/96	1	0.5	BQL
2-Chlorotoluene	9/27/96	1	0.5	BQL
4-Chlorotoluene	9/27/96	1	0.5	BQL
Dibromochloromethane	9/27/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	9/27/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	9/27/96	1	0.5	BQL
Dibromomethane	9/27/96	1	0.5	BQL
1,2-Dichlorobenzene	9/27/96	1	0.5	BQL
1,3-Dichlorobenzene	9/27/96	1	0.5	BQL
1,4-Dichlorobenzene	9/27/96	1	0.5	BQL
Dichlorodifluoromethane	9/27/96	1	0.5	BQL
1,1-Dichloroethane	9/27/96	1	0.5	**2**
1,2-Dichloroethane	9/27/96	1	0.5	BQL
1,1-Dichloroethene	9/27/96	1	0.5	**1**
cis-1,2-Dichloroethene	9/27/96	1	0.5	**0.7**
trans-1,2-Dichloroethene	9/27/96	1	0.5	BQL
1,2-Dichloropropane	9/27/96	1	0.5	BQL
2,2-Dichloropropane	9/27/96	1	0.5	BQL
cis-1,3-Dichloropropane	9/27/96	1	0.5	BQL
trans-1,3-Dichloropropane	9/27/96	1	0.5	BQL
Diisopropyl ether	9/27/96	1	0.5	BQL
Ethylbenzene	9/27/96	1	0.5	BQL
Hexachlorobutadiene	9/27/96	1	0.5	BQL
Isopropylbenzene	9/27/96	1	0.5	BQL
p-Isopropyltoluene	9/27/96	1	0.5	BQL
Methyl-tert butyl ether	9/27/96	1	0.5	BQL
Methylene Chloride	9/27/96	1	0.5	BQL
Naphthalene	9/27/96	1	0.5	BQL
n-Propylbenzene	9/27/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: GW-6
Client Project ID: NC0360.211
Lab Sample ID: 15136
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)	
Styrene	9/27/96	1	0.5	BQL	
1,1,1,2-Tertrachloroethane	9/27/96	1	0.5	BQL	
1,1,2,2-Tertrachloroethane	9/27/96	1	0.5	BQL	
Tetrachloroethene	9/27/96	1	0.5	BQL	
Toluene	9/27/96	1	0.5	BQL	
1,2,3-Trichlorobenzene	9/27/96	1	0.5	BQL	
1,2,4-Trichlorobenzene	9/27/96	1	0.5	BQL	
1,1,1-Trichloroethane	9/27/96	1	0.5		3
1,1,2-Trichloroethane	9/27/96	1	0.5	BQL	
Trichloroethene	9/27/96	1	0.5	BQL	
Trichlorofluromethane	9/27/96	1	0.5	BQL	
1,2,3-Trichloropropane	9/27/96	1	0.5	BQL	
1,2,4-Trimethylbenzene	9/27/96	1	0.5	BQL	
1,3,5-Trimethylbenzene	9/27/96	1	0.5	BQL	
Vinyl Chloride	9/27/96	1	0.5	BQL	
m/p-Xylene	9/27/96	1	0.5	BQL	
o-Xylene	9/27/96	1	0.5	BQL	

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.8	96
Trifluorotoluene	5	4.8	96

Comments:
All values corrected for dilution.

Reviewed By: MW

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: SW-1
Client Project ID: NC0360.211
Lab Sample ID: 15137
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	10/4/96	1	0.5	BQL
Bromobenzene	10/4/96	1	0.5	BQL
Bromochloromethane	10/4/96	1	0.5	BQL
Bromodichloromethane	10/4/96	1	0.5	BQL
Bromoform	10/4/96	1	0.5	BQL
Bromomethane	10/4/96	1	0.5	BQL
n-Butylbenzene	10/4/96	1	0.5	BQL
sec-Butylbenzene	10/4/96	1	0.5	BQL
tert-Butylbenzene	10/4/96	1	0.5	BQL
Carbon tetrachloride	10/4/96	1	0.5	BQL
Chlorobenzene	10/4/96	1	0.5	BQL
Chloroethane	10/4/96	1	0.5	BQL
Chloroform	10/4/96	1	0.5	BQL
Chloromethane	10/4/96	1	0.5	BQL
2-Chlorotoluene	10/4/96	1	0.5	BQL
4-Chlorotoluene	10/4/96	1	0.5	BQL
Dibromochloromethane	10/4/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	10/4/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	10/4/96	1	0.5	BQL
Dibromomethane	10/4/96	1	0.5	BQL
1,2-Dichlorobenzene	10/4/96	1	0.5	BQL
1,3-Dichlorobenzene	10/4/96	1	0.5	BQL
1,4-Dichlorobenzene	10/4/96	1	0.5	BQL
Dichlorodifluoromethane	10/4/96	1	0.5	BQL
1,1-Dichloroethane	10/4/96	1	0.5	BQL
1,2-Dichloroethane	10/4/96	1	0.5	BQL
1,1-Dichloroethene	10/4/96	1	0.5	BQL
cis-1,2-Dichloroethene	10/4/96	1	0.5	BQL
trans-1,2-Dichloroethene	10/4/96	1	0.5	BQL
1,2-Dichloropropane	10/4/96	1	0.5	BQL
2,2-Dichloropropane	10/4/96	1	0.5	BQL
cis-1,3-Dichloropropane	10/4/96	1	0.5	BQL
trans-1,3-Dichloropropane	10/4/96	1	0.5	BQL
Diisopropyl ether	10/4/96	1	0.5	BQL
Ethylbenzene	10/4/96	1	0.5	BQL
Hexachlorobutadiene	10/4/96	1	0.5	BQL
Isopropylbenzene	10/4/96	1	0.5	BQL
p-Isopropyltoluene	10/4/96	1	0.5	BQL
Methyl-tert butyl ether	10/4/96	1	0.5	BQL
Methylene Chloride	10/4/96	1	0.5	BQL
Naphthalene	10/4/96	1	0.5	BQL
n-Propylbenzene	10/4/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 6230D

Client Sample ID: SW-1
Client Project ID: NC0360.211
Lab Sample ID: 15137
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	10/4/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	10/4/96	1	0.5	BQL
1,1,2,2-Tertrachloroethane	10/4/96	1	0.5	BQL
Tetrachloroethene	10/4/96	1	0.5	BQL
Toluene	10/4/96	1	0.5	BQL
1,2,3-Trichlorobenzene	10/4/96	1	0.5	BQL
1,2,4-Trichlorobenzene	10/4/96	1	0.5	BQL
1,1,1-Trichloroethane	10/4/96	1	0.5	BQL
1,1,2-Trichloroethane	10/4/96	1	0.5	BQL
Trichloroethene	10/4/96	1	0.5	BQL
Trichlorofluromethane	10/4/96	1	0.5	BQL
1,2,3-Trichloropropane	10/4/96	1	0.5	BQL
1,2,4-Trimethylbenzene	10/4/96	1	0.5	BQL
1,3,5-Trimethylbenzene	10/4/96	1	0.5	BQL
Vinyl Chloride	10/4/96	1	0.5	BQL
m/p-Xylene	10/4/96	1	0.5	BQL
o-Xylene	10/4/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.6	92
Trifluorotoluene	5	4.8	96

Comments:

All values corrected for dilution.

Reviewed By: MA

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: EB-01-GW
Client Project ID: NC0360.211
Lab Sample ID: 15138
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/26/96	1	0.5	BQL
Bromobenzene	9/26/96	1	0.5	BQL
Bromochloromethane	9/26/96	1	0.5	BQL
Bromodichloromethane	9/26/96	1	0.5	BQL
Bromoform	9/26/96	1	0.5	BQL
Bromomethane	9/26/96	1	0.5	BQL
n-Butylbenzene	9/26/96	1	0.5	BQL
sec-Butylbenzene	9/26/96	1	0.5	BQL
tert-Butylbenzene	9/26/96	1	0.5	BQL
Carbon tetrachloride	9/26/96	1	0.5	BQL
Chlorobenzene	9/26/96	1	0.5	BQL
Chloroethane	9/26/96	1	0.5	BQL
Chloroform	9/26/96	1	0.5	BQL
Chloromethane	9/26/96	1	0.5	BQL
2-Chlorotoluene	9/26/96	1	0.5	BQL
4-Chlorotoluene	9/26/96	1	0.5	BQL
Dibromochloromethane	9/26/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	9/26/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	9/26/96	1	0.5	BQL
Dibromomethane	9/26/96	1	0.5	BQL
1,2-Dichlorobenzene	9/26/96	1	0.5	BQL
1,3-Dichlorobenzene	9/26/96	1	0.5	BQL
1,4-Dichlorobenzene	9/26/96	1	0.5	BQL
Dichlorodifluoromethane	9/26/96	1	0.5	BQL
1,1-Dichloroethane	9/26/96	1	0.5	BQL
1,2-Dichloroethane	9/26/96	1	0.5	BQL
1,1-Dichloroethene	9/26/96	1	0.5	BQL
cis-1,2-Dichloroethene	9/26/96	1	0.5	BQL
trans-1,2-Dichloroethene	9/26/96	1	0.5	BQL
1,2-Dichloropropane	9/26/96	1	0.5	BQL
2,2-Dichloropropane	9/26/96	1	0.5	BQL
cis-1,3-Dichloropropane	9/26/96	1	0.5	BQL
trans-1,3-Dichloropropane	9/26/96	1	0.5	BQL
Diisopropyl ether	9/26/96	1	0.5	BQL
Ethylbenzene	9/26/96	1	0.5	BQL
Hexachlorobutadiene	9/26/96	1	0.5	BQL
Isopropylbenzene	9/26/96	1	0.5	BQL
p-Isopropyltoluene	9/26/96	1	0.5	BQL
Methyl-tert butyl ether	9/26/96	1	0.5	BQL
Methylene Chloride	9/26/96	1	0.5	BQL
Naphthalene	9/26/96	1	0.5	BQL
n-Propylbenzene	9/26/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 6230D

Client Sample ID: EB-01-GW
Client Project ID: NC0360.211
Lab Sample ID: 15138
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/26/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	9/26/96	1	0.5	BQL
1,1,2,2-Tertrachloroethane	9/26/96	1	0.5	BQL
Tetrachloroethene	9/26/96	1	0.5	BQL
Toluene	9/26/96	1	0.5	BQL
1,2,3-Trichlorobenzene	9/26/96	1	0.5	BQL
1,2,4-Trichlorobenzene	9/26/96	1	0.5	BQL
1,1,1-Trichloroethane	9/26/96	1	0.5	BQL
1,1,2-Trichloroethane	9/26/96	1	0.5	BQL
Trichloroethene	9/26/96	1	0.5	BQL
Trichloroflurometh ane	9/26/96	1	0.5	BQL
1,2,3-Trichloropropane	9/26/96	1	0.5	BQL
1,2,4-Trimethylbenzene	9/26/96	1	0.5	BQL
1,3,5-Trimethylbenzene	9/26/96	1	0.5	BQL
Vinyl Chloride	9/26/96	1	0.5	BQL
m/p-Xylene	9/26/96	1	0.5	BQL
o-Xylene	9/26/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.9	98
Trifluorotoluene	5	4.7	94

Comments:

All values corrected for dilution.

Reviewed By: MA

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: TB-01-9/20/96
Client Project ID: NC0360.211
Lab Sample ID: 15139
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/26/96	1	0.5	BQL
Bromobenzene	9/26/96	1	0.5	BQL
Bromochloromethane	9/26/96	1	0.5	BQL
Bromodichloromethane	9/26/96	1	0.5	BQL
Bromoform	9/26/96	1	0.5	BQL
Bromomethane	9/26/96	1	0.5	BQL
n-Butylbenzene	9/26/96	1	0.5	BQL
sec-Butylbenzene	9/26/96	1	0.5	BQL
tert-Butylbenzene	9/26/96	1	0.5	BQL
Carbon tetrachloride	9/26/96	1	0.5	BQL
Chlorobenzene	9/26/96	1	0.5	BQL
Chloroethane	9/26/96	1	0.5	BQL
Chloroform	9/26/96	1	0.5	BQL
Chloromethane	9/26/96	1	0.5	BQL
2-Chlorotoluene	9/26/96	1	0.5	BQL
4-Chlorotoluene	9/26/96	1	0.5	BQL
Dibromochloromethane	9/26/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	9/26/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	9/26/96	1	0.5	BQL
Dibromomethane	9/26/96	1	0.5	BQL
1,2-Dichlorobenzene	9/26/96	1	0.5	BQL
1,3-Dichlorobenzene	9/26/96	1	0.5	BQL
1,4-Dichlorobenzene	9/26/96	1	0.5	BQL
Dichlorodifluoromethane	9/26/96	1	0.5	BQL
1,1-Dichloroethane	9/26/96	1	0.5	BQL
1,2-Dichloroethane	9/26/96	1	0.5	BQL
1,1-Dichloroethene	9/26/96	1	0.5	BQL
cis-1,2-Dichloroethene	9/26/96	1	0.5	BQL
trans-1,2-Dichloroethene	9/26/96	1	0.5	BQL
1,2-Dichloropropane	9/26/96	1	0.5	BQL
2,2-Dichloropropane	9/26/96	1	0.5	BQL
cis-1,3-Dichloropropane	9/26/96	1	0.5	BQL
trans-1,3-Dichloropropane	9/26/96	1	0.5	BQL
Diisopropyl ether	9/26/96	1	0.5	BQL
Ethylbenzene	9/26/96	1	0.5	BQL
Hexachlorobutadiene	9/26/96	1	0.5	BQL
Isopropylbenzene	9/26/96	1	0.5	BQL
p-Isopropyltoluene	9/26/96	1	0.5	BQL
Methyl-tert butyl ether	9/26/96	1	0.5	BQL
Methylene Chloride	9/26/96	1	0.5	BQL
Naphthalene	9/26/96	1	0.5	BQL
n-Propylbenzene	9/26/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: TB-01-9/20/96
Client Project ID: NC0360.211
Lab Sample ID: 15139
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/26/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	9/26/96	1	0.5	BQL
1,1,2,2-Tertrachloroethane	9/26/96	1	0.5	BQL
Tetrachloroethene	9/26/96	1	0.5	BQL
Toluene	9/26/96	1	0.5	BQL
1,2,3-Trichlorobenzene	9/26/96	1	0.5	BQL
1,2,4-Trichlorobenzene	9/26/96	1	0.5	BQL
1,1,1-Trichloroethane	9/26/96	1	0.5	BQL
1,1,2-Trichloroethane	9/26/96	1	0.5	BQL
Trichloroethene	9/26/96	1	0.5	BQL
Trichlorofluromethane	9/26/96	1	0.5	BQL
1,2,3-Trichloropropane	9/26/96	1	0.5	BQL
1,2,4-Trimethylbenzene	9/26/96	1	0.5	BQL
1,3,5-Trimethylbenzene	9/26/96	1	0.5	BQL
Vinyl Chloride	9/26/96	1	0.5	BQL
m/p-Xylene	9/26/96	1	0.5	BQL
o-Xylene	9/26/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.8	96
Trifluorotoluene	5	4.7	94

Comments:
All values corrected for dilution.

Reviewed By: MR

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: REP-01-GW
Client Project ID: NC0360.211
Lab Sample ID: 15140
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/27/96	1	0.5	BQL
Bromobenzene	9/27/96	1	0.5	BQL
Bromochloromethane	9/27/96	1	0.5	BQL
Bromodichloromethane	9/27/96	1	0.5	BQL
Bromoform	9/27/96	1	0.5	BQL
Bromomethane	9/27/96	1	0.5	BQL
n-Butylbenzene	9/27/96	1	0.5	BQL
sec-Butylbenzene	9/27/96	1	0.5	BQL
tert-Butylbenzene	9/27/96	1	0.5	BQL
Carbon tetrachloride	9/27/96	1	0.5	BQL
Chlorobenzene	9/27/96	1	0.5	BQL
Chloroethane	9/27/96	1	0.5	BQL
Chloroform	9/27/96	1	0.5	BQL
Chloromethane	9/27/96	1	0.5	BQL
2-Chlorotoluene	9/27/96	1	0.5	BQL
4-Chlorotoluene	9/27/96	1	0.5	BQL
Dibromochloromethane	9/27/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	9/27/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	9/27/96	1	0.5	BQL
Dibromomethane	9/27/96	1	0.5	BQL
1,2-Dichlorobenzene	9/27/96	1	0.5	BQL
1,3-Dichlorobenzene	9/27/96	1	0.5	BQL
1,4-Dichlorobenzene	9/27/96	1	0.5	BQL
Dichlorodifluoromethane	9/27/96	1	0.5	BQL
1,1-Dichloroethane	9/27/96	1	0.5	BQL
1,2-Dichloroethane	9/27/96	1	0.5	BQL
1,1-Dichloroethene	9/27/96	1	0.5	BQL
cis-1,2-Dichloroethene	9/27/96	1	0.5	**2**
trans-1,2-Dichloroethene	9/27/96	1	0.5	BQL
1,2-Dichloropropane	9/27/96	1	0.5	BQL
2,2-Dichloropropane	9/27/96	1	0.5	BQL
cis-1,3-Dichloropropane	9/27/96	1	0.5	BQL
trans-1,3-Dichloropropane	9/27/96	1	0.5	BQL
Diisopropyl ether	9/27/96	1	0.5	BQL
Ethylbenzene	9/27/96	1	0.5	BQL
Hexachlorobutadiene	9/27/96	1	0.5	BQL
Isopropylbenzene	9/27/96	1	0.5	BQL
p-Isopropyltoluene	9/27/96	1	0.5	BQL
Methyl-tert butyl ether	9/27/96	1	0.5	**0.8**
Methylene Chloride	9/27/96	1	0.5	BQL
Naphthalene	9/27/96	1	0.5	**0.8**
n-Propylbenzene	9/27/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 6230D

Client Sample ID: REP-01-GW
Client Project ID: NC0360.211
Lab Sample ID: 15140
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/27/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	9/27/96	1	0.5	BQL
1,1,2,2-Tertrachloroethane	9/27/96	1	0.5	BQL
Tetrachloroethene	9/27/96	1	0.5	BQL
Toluene	9/27/96	1	0.5	BQL
1,2,3-Trichlorobenzene	9/27/96	1	0.5	BQL
1,2,4-Trichlorobenzene	9/27/96	1	0.5	BQL
1,1,1-Trichloroethane	9/27/96	1	0.5	BQL
1,1,2-Trichloroethane	9/27/96	1	0.5	BQL
Trichloroethene	9/27/96	1	0.5	2
Trichlorofluromethane	9/27/96	1	0.5	BQL
1,2,3-Trichloropropane	9/27/96	1	0.5	BQL
1,2,4-Trimethylbenzene	9/27/96	1	0.5	BQL
1,3,5-Trimethylbenzene	9/27/96	1	0.5	BQL
Vinyl Chloride	9/27/96	1	0.5	BQL
m/p-Xylene	9/27/96	1	0.5	BQL
o-Xylene	9/27/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.9	98
Trifluorotoluene	5	4.9	98

Comments:

All values corrected for dilution.

Reviewed By: [illegible]

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: VBLK092696
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	9/26/96	1	0.5	BQL
Bromobenzene	9/26/96	1	0.5	BQL
Bromochloromethane	9/26/96	1	0.5	BQL
Bromodichloromethane	9/26/96	1	0.5	BQL
Bromoform	9/26/96	1	0.5	BQL
Bromomethane	9/26/96	1	0.5	BQL
n-Butylbenzene	9/26/96	1	0.5	BQL
sec-Butylbenzene	9/26/96	1	0.5	BQL
tert-Butylbenzene	9/26/96	1	0.5	BQL
Carbon tetrachloride	9/26/96	1	0.5	BQL
Chlorobenzene	9/26/96	1	0.5	BQL
Chloroethane	9/26/96	1	0.5	BQL
Chloroform	9/26/96	1	0.5	BQL
Chloromethane	9/26/96	1	0.5	BQL
2-Chlorotoluene	9/26/96	1	0.5	BQL
4-Chlorotoluene	9/26/96	1	0.5	BQL
Dibromochloromethane	9/26/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	9/26/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	9/26/96	1	0.5	BQL
Dibromomethane	9/26/96	1	0.5	BQL
1,2-Dichlorobenzene	9/26/96	1	0.5	BQL
1,3-Dichlorobenzene	9/26/96	1	0.5	BQL
1,4-Dichlorobenzene	9/26/96	1	0.5	BQL
Dichlorodifluoromethane	9/26/96	1	0.5	BQL
1,1-Dichloroethane	9/26/96	1	0.5	BQL
1,2-Dichloroethane	9/26/96	1	0.5	BQL
1,1-Dichloroethene	9/26/96	1	0.5	BQL
cis-1,2-Dichloroethene	9/26/96	1	0.5	BQL
trans-1,2-Dichloroethene	9/26/96	1	0.5	BQL
1,2-Dichloropropane	9/26/96	1	0.5	BQL
2,2-Dichloropropane	9/26/96	1	0.5	BQL
cis-1,3-Dichloropropane	9/26/96	1	0.5	BQL
trans-1,3-Dichloropropane	9/26/96	1	0.5	BQL
Diisopropyl ether	9/26/96	1	0.5	BQL
Ethylbenzene	9/26/96	1	0.5	BQL
Hexachlorobutadiene	9/26/96	1	0.5	BQL
Isopropylbenzene	9/26/96	1	0.5	BQL
p-Isopropyltoluene	9/26/96	1	0.5	BQL
Methyl-tert butyl ether	9/26/96	1	0.5	BQL
Methylene Chloride	9/26/96	1	0.5	BQL
Naphthalene	9/26/96	1	0.5	BQL
n-Propylbenzene	9/26/96	1	0.5	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: VBLK092696
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	9/26/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	9/26/96	1	0.5	BQL
1,1,2,2-Tertrachloroethane	9/26/96	1	0.5	BQL
Tetrachloroethene	9/26/96	1	0.5	BQL
Toluene	9/26/96	1	0.5	BQL
1,2,3-Trichlorobenzene	9/26/96	1	0.5	BQL
1,2,4-Trichlorobenzene	9/26/96	1	0.5	BQL
1,1,1-Trichloroethane	9/26/96	1	0.5	BQL
1,1,2-Trichloroethane	9/26/96	1	0.5	BQL
Trichloroethene	9/26/96	1	0.5	BQL
Trichlorofluromethane	9/26/96	1	0.5	BQL
1,2,3-Trichloropropane	9/26/96	1	0.5	BQL
1,2,4-Trimethylbenzene	9/26/96	1	0.5	BQL
1,3,5-Trimethylbenzene	9/26/96	1	0.5	BQL
Vinyl Chloride	9/26/96	1	0.5	BQL
m/p-Xylene	9/26/96	1	0.5	BQL
o-Xylene	9/26/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.9	98
Trifluorotoluene	5	4.7	94

Comments:
All values corrected for dilution.

Reviewed By: MM

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 6230D

Client Sample ID: VBLK100496
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	10/4/96	1	0.5	BQL
Bromobenzene	10/4/96	1	0.5	BQL
Bromochloromethane	10/4/96	1	0.5	BQL
Bromodichloromethane	10/4/96	1	0.5	BQL
Bromoform	10/4/96	1	0.5	BQL
Bromomethane	10/4/96	1	0.5	BQL
n-Butylbenzene	10/4/96	1	0.5	BQL
sec-Butylbenzene	10/4/96	1	0.5	BQL
tert-Butylbenzene	10/4/96	1	0.5	BQL
Carbon tetrachloride	10/4/96	1	0.5	BQL
Chlorobenzene	10/4/96	1	0.5	BQL
Chloroethane	10/4/96	1	0.5	BQL
Chloroform	10/4/96	1	0.5	BQL
Chloromethane	10/4/96	1	0.5	BQL
2-Chlorotoluene	10/4/96	1	0.5	BQL
4-Chlorotoluene	10/4/96	1	0.5	BQL
Dibromochloromethane	10/4/96	1	0.5	BQL
1,2-Dibromo-3-chloropropane	10/4/96	1	0.5	BQL
1,2-Dibromoethane (EDB)	10/4/96	1	0.5	BQL
Dibromomethane	10/4/96	1	0.5	BQL
1,2-Dichlorobenzene	10/4/96	1	0.5	BQL
1,3-Dichlorobenzene	10/4/96	1	0.5	BQL
1,4-Dichlorobenzene	10/4/96	1	0.5	BQL
Dichlorodifluoromethane	10/4/96	1	0.5	BQL
1,1-Dichloroethane	10/4/96	1	0.5	BQL
1,2-Dichloroethane	10/4/96	1	0.5	BQL
1,1-Dichloroethene	10/4/96	1	0.5	BQL
cis-1,2-Dichloroethene	10/4/96	1	0.5	BQL
trans-1,2-Dichloroethene	10/4/96	1	0.5	BQL
1,2-Dichloropropane	10/4/96	1	0.5	BQL
2,2-Dichloropropane	10/4/96	1	0.5	BQL
cis-1,3-Dichloropropane	10/4/96	1	0.5	BQL
trans-1,3-Dichloropropane	10/4/96	1	0.5	BQL
Diisopropyl ether	10/4/96	1	0.5	BQL
Ethylbenzene	10/4/96	1	0.5	BQL
Hexachlorobutadiene	10/4/96	1	0.5	BQL
Isopropylbenzene	10/4/96	1	0.5	BQL
p-Isopropyltoluene	10/4/96	1	0.5	BQL
Methyl-tert butyl ether	10/4/96	1	0.5	BQL
Methylene Chloride	10/4/96	1	0.5	BQL
Naphthalene	10/4/96	1	0.5	BQL
n-Propylbenzene	10/4/96	1	0.5	BQL

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 6230D

Client Sample ID: VBLK100496
Client Project ID: NC0360.211
Lab Sample ID:
Lab Project ID: G149-39

Analyzed By: RNP
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	10/4/96	1	0.5	BQL
1,1,1,2-Tertrachloroethane	10/4/96	1	0.5	BQL
1,1,2,2-Tertrachloroethane	10/4/96	1	0.5	BQL
Tetrachloroethene	10/4/96	1	0.5	BQL
Toluene	10/4/96	1	0.5	BQL
1,2,3-Trichlorobenzene	10/4/96	1	0.5	BQL
1,2,4-Trichlorobenzene	10/4/96	1	0.5	BQL
1,1,1-Trichloroethane	10/4/96	1	0.5	BQL
1,1,2-Trichloroethane	10/4/96	1	0.5	BQL
Trichloroethene	10/4/96	1	0.5	BQL
Trichloroflurometh ane	10/4/96	1	0.5	BQL
1,2,3-Trichloropropane	10/4/96	1	0.5	BQL
1,2,4-Trimethylbenzene	10/4/96	1	0.5	BQL
1,3,5-Trimethylbenzene	10/4/96	1	0.5	BQL
Vinyl Chloride	10/4/96	1	0.5	BQL
m/p-Xylene	10/4/96	1	0.5	BQL
o-Xylene	10/4/96	1	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	5	4.4	88
Trifluorotoluene	5	4.7	94

Comments:
All values corrected for dilution.

Reviewed By: MW

Flags:
BQL = Below Quantitation Limit

Results for MS/MSD
by GC 6230D

Client Sample ID: GW-3
Client Project ID: NC0360.211
Lab Sample ID: 15133
Lab Project ID: G149-39
Analyzed By: RNP

Date Analyzed: 10/4/96
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
Benzene	BQL	5.0	86.7	88.8	45.7	154.3	2.5	30
Bromobenzene	BQL	5.0	82.0	98.3	65.4	134.6	18.1	30
Bromochloromethane	BQL	5.0	77.7	84.4	62.4	137.6	8.3	30
Bromodichloromethane	BQL	5.0	75.3	80.7	53.3	146.7	6.9	30
Bromoform	BQL	5.0	62.4 *	62.4 *	62.6	137.4	0.0	30
Bromomethane	BQL	5.0	98.3	105.1	23.4	176.6	6.7	30
n-Butylbenzene	BQL	5.0	81.9	71.5	>0	246.8	13.6	30
sec-Butylbenzene	BQL	5.0	82.9	73.0	9.9	190.1	12.7	30
tert-Butylbenzene	BQL	5.0	85.0	80.3	11.8	188.2	5.7	30
Carbon tetrachloride	BQL	5.0	76.7	98.0	>0	239.2	24.4	30
Chlorobenzene	BQL	5.0	71.1	76.2	41.5	158.5	6.9	30
Chloroethane	BQL	5.0	102.1	111.8	41.6	158.4	9.1	30
Chloroform	BQL	5.0	77.7	90.8	62.0	138.0	15.6	30
Chloromethane	BQL	5.0	95.3	122.2	71.1	128.9	24.8	30
2-Chlorotoluene	BQL	5.0	67.9	73.8	>0	197.8	8.2	30
4-Chlorotoluene	BQL	5.0	68.1	75.7	16.3	183.7	10.6	30
Dibromochloromethane	BQL	5.0	71.7	76.1	63.3	136.7	5.9	30
1,2-Dibromo-3-chloropropane	BQL	5.0	61.2 *	56.3 *	70.5	129.5	8.4	30
1,2-Dibromoethane (EDB)	BQL	5.0	72.4	76.4	61.5	138.5	5.4	30
Dibromomethane	BQL	5.0	79.9	81.8	70.7	129.3	2.3	30
1,2-Dichlorobenzene	BQL	5.0	64.3	69.8	40.5	159.5	8.1	30
1,3-Dichlorobenzene	BQL	5.0	64.4	67.8	25.1	174.9	5.1	30
1,4-Dichlorobenzene	BQL	5.0	68.3	71.9	23.3	176.7	5.1	30
Dichlorodifluoromethane	BQL	5.0	67.9	82.3	>0	214.6	19.2	30
1,1-Dichloroethane	BQL	5.0	76.7	85.5	32.6	167.4	10.8	30
1,2-Dichloroethane	BQL	5.0	78.3	86.7	50.9	149.1	10.2	30
1,1-Dichloroethene	BQL	5.0	72.8	84.9	17.3	182.7	15.3	30
cis-1,2-Dichloroethene	1.8	5.0	119.2	99.8	>0	204.6	17.7	30
trans-1,2-Dichloroethene	BQL	5.0	76.7	85.9	25.1	174.9	11.3	30
1,2-Dichloropropane	BQL	5.0	80.9	87.6	38.3	161.7	8.0	30
2,2-Dichloropropane	BQL	5.0	76.7	98.0	>0	239.2	24.4	30
cis-1,3-Dichloropropene	BQL	5.0	81.9	88.0	48.5	151.5	7.2	30
trans-1,3-Dichloropropene	BQL	5.0	76.8	82.6	59.7	140.3	7.3	30
Diisopropyl ether	BQL	5.0	85.0	93.6	64.0	136.0	9.6	30
Ethylbenzene	BQL	5.0	78.7	76.3	26.7	173.3	3.1	30
Hexachlorobutadiene	BQL	5.0	53.7	69.5	>0	256.8	25.6	30
Isopropylbenzene	BQL	5.0	82.2	75.9	16.1	183.9	7.9	30
p-Isopropyltoluene	BQL	5.0	85.1	80.0	>0	247.9	6.2	30
Methyl-tert butyl ether	0.66	5.0	76.2	77.9	5.5	194.5	2.2	30
Methylene Chloride	BQL	5.0	76.2	87.1	69.6	130.4	13.4	30
Naphthalene	BQL	5.0	78.3	95.9	40.5	159.5	20.3	30
n-Propylbenzene	BQL	5.0	82.2	72.7	16.6	183.4	12.3	30
Styrene	BQL	5.0	62.6	57.1	14.8	185.2	9.3	30
1,1,1,2-Tertrachloroethane	BQL	5.0	76.6	82.6	44.0	156.0	7.6	30
1,1,2,2-Tertrachloroethane	BQL	5.0	60.3	54.4	>0	241.2	10.4	30
Tetrachloroethene	BQL	5.0	73.7	90.0	>0	248.5	20.0	30

Results for MS/MSD
by GC 6230D

Client Sample ID: GW-3
Client Project ID: NC0360.211
Lab Sample ID: 15133
Lab Project ID: G149-39
Analyzed By: RNP

Date Analyzed: 10/4/96
Date Collected: 9/20/96
Date Received: 9/21/96
Matrix: Water

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
Toluene	BQL	5.0	80.6	81.7	27.3	172.7	1.3	30
1,2,3-Trichlorobenzene	BQL	5.0	53.6	63.1	22.2	177.8	16.3	30
1,2,4-Trichlorobenzene	BQL	5.0	61.5	69.1	27.8	172.2	11.7	30
1,1,1-Trichloroethane	BQL	5.0	38.2	43.9	18.0	182.0	13.8	30
1,1,2-Trichloroethane	BQL	5.0	77.3	89.3	60.8	139.2	14.3	30
Trichloroethene	9.9	5.0	122.9	23.9 *	55.7	144.3	134.9 *	30
Trichlorofluromethane	BQL	5.0	80.3	95.4	30.7	169.3	17.2	30
1,2,3-Trichloropropane	BQL	5.0	82.0	98.3	65.4	134.6	18.1	30
1,2,4-Trimethylbenzene	BQL	5.0	66.3	57.2	30.6	169.4	14.7	30
1,3,5-Trimethylbenzene	BQL	5.0	67.2	57.3	26.2	173.8	16.0	30
Vinyl Chloride	BQL	5.0	80.6	98.3	18.9	181.1	19.8	30
m/p-Xylene	BQL	10.0	71.4	64.8	28.8	171.2	9.7	30
o-Xylene	BQL	5.0	62.6	57.1	39.0	161.0	9.3	30

Comments:

Concentrations are on column amounts.

Flags:

* = Out of limits.
NA = Not applicable
BQL = Below quantitation limit.

Reviewed By: MM

Results for Labortory Control Spike (LCS)

by GC 6230D

Client Sample ID: LCS100396
Client Project ID: NC0360.211
Lab Sample ID: None assigned
Lab Project ID: G149-39

Analyst: RNP
Date Collected: Not applicable
Date Received: Not applicable
Matrix: Water

	Spiked	LCS	Limits Lower	Limits Upper
Benzene	5	101.0	80.5	119.5
Bromobenzene	5	99.3	55.3	144.7
Bromochloromethane	5	106.8	74.3	125.7
Bromodichloromethane	5	105.2	78.7	121.3
Bromoform	5	90.3	71.8	128.2
Bromomethane	5	95.4	77.4	122.6
n-Butylbenzene	5	89.9	26.1	173.9
sec-Butylbenzene	5	93.2	52.7	147.3
tert-Butylbenzene	5	94.7	62.4	137.6
Carbon tetrachloride	5	120.1	76.4	123.6
Chlorobenzene	5	102.8	73.0	127.0
Chloroethane	5	103.1	81.3	118.7
Chloroform	5	114.8	78.5	121.5
Chloromethane	5	107.5	85.5	114.5
2-Chlorotoluene	5	100.2	85.5	114.5
4-Chlorotoluene	5	101.6	75.3	124.7
Dibromochloromethane	5	102.6	75.4	124.6
1,2-Dibromo-3-chloropropane	5	103.5	74.1	125.9
1,2-Dibromoethane (EDB)	5	102.6	72.2	127.8
Dibromomethane	5	104.6	71.0	129.0
1,2-Dichlorobenzene	5	99.3	75.3	124.7
1,3-Dichlorobenzene	5	100.2	84.4	115.6
1,4-Dichlorobenzene	5	101.6	80.9	119.1
Dichlorodifluoromethane	5	81.3	64.6	135.4
1,1-Dichloroethane	5	109.7	76.7	123.3
1,2-Dichloroethane	5	110.7	69.9	130.1
1,1-Dichloroethene	5	104.3	77.4	122.6
cis-1,2-Dichloroethene	5	112.7	74.1	125.9
trans-1,2-Dichloroethene	5	107.9	75.1	124.9
1,2-Dichloropropane	5	108.2	73.9	126.1
2,2-Dichloropropane	5	112.7	76.4	123.6
cis-1,3-Dichloropropene	5	107.6	80.5	119.5
trans-1,3-Dichloropropene	5	102.0	72.8	127.2
Diisopropyl ether	5	105.4	74.1	125.9
Ethylbenzene	5	96.8	71.7	128.3
Hexachlorobutadiene	5	74.2	68.9	131.1
Isopropylbenzene	5	95.6	39.2	160.8
p-Isopropyltoluene	5	95.1	78.1	121.9
Methyl-tert butyl ether	5	99.8	81.2	118.8
Methylene Chloride	5	110.1	76.7	123.3
Naphthalene	5	91.5	43.1	156.9
n-Propylbenzene	5	94.9	55.9	144.1
Styrene	5	98.1	80.2	119.8
1,1,1,2-Tertrachloroethane	5	110.5	69.6	130.4
1,1,2,2-Tertrachloroethane	5	99.3	69.0	131.0
Tetrachloroethene	5	122.8	70.7	129.3
Toluene	5	96.8	82.5	117.5
1,2,3-Trichlorobenzene	5	104.1	34.3	165.7
1,2,4-Trichlorobenzene	5	97.0	39.8	160.2
1,1,1-Trichloroethane	5	109.4	77.6	122.4

Results for Labortory Control Spike (LCS)

by GC 6230D

Client Sample ID: LCS100396
Client Project ID: NC0360.211
Lab Sample ID: None assigned
Lab Project ID: G149-39

Analyst: RNP
Date Collected: Not applicable
Date Received: Not applicable
Matrix: Water

	Spiked	LCS	Limits Lower	Limits Upper
1,1,2-Trichloroethane	5	112.5	68.6	131.4
Trichloroethene	5	112.2	69.8	130.2
Trichloroflurometh ane	5	95.4	76.1	123.9
1,2,3-Trichloropropane	5	99.3	55.3	144.7
1,2,4-Trimethylbenzene	5	93.2	47.1	152.9
1,3,5-Trimethylbenzene	5	95.6	50.4	149.6
Vinyl Chloride	5	103.8	86.4	113.6
m/p-Xylene	10	96.6	45.3	154.7
o-Xylene	5	98.1	80.2	119.8

Comments:

Concentration values are on column amount.

Flags:

* = Out of limits.
NA = Not applicable

Reviewed By: hm

Response Factor Report

Method: 6230D Water **Batch:** 092696

H1: 006F0101.D P1: 006R0101.D
H2: 005F0101.D P2: 005R0101.D
H3: 004F0101.D P3: 004R0101.D
H4: 003F0101.D P4: 003R0101.D
H5: 002F0101.D P5: 002R0101.D

Compound	1	2	3	4	5	Avg.	%RSD
Benzene	1.194	1.243	1.049	1.484	1.477	1.290	14.60
Bromobenzene	0.474	0.586	0.428	0.512	0.484	0.497	11.73
Bromochloromethane	0.597	0.789	0.7	1.034	0.906	0.805	21.27
Bromodichloromethane	1.113	1.324	1.112	1.539	1.347	1.287	13.97
Bromoform			0.168	0.295	0.292	0.252	28.66
Bromomethane			0.243	0.389	0.354	0.328	23.24
n-Butylbenzene	1.402	1.222	1.04	1.679	1.709	1.411	20.49
sec-Butylbenzene	0.824	0.746	0.637	1.006	1.028	0.848	19.80
tert-Butylbenzene	0.806	0.761	0.639	0.944	0.963	0.823	16.37
Carbon tetrachloride	4.095	4.211	3.457	4.917	3.046	3.945	18.30
Chlorobenzene	0.655	0.75	0.651	0.902	0.823	0.756	14.30
Chloroethane	0.436	0.485	0.418	0.61	0.534	0.497	15.67
Chloroform	2.592	2.732	2.154	2.909	2.257	2.529	12.58
Chloromethane	0.457	0.535	0.505	0.698	0.657	0.571	18.00
2-Chlorotoluene	0.711	0.535	0.505	0.698	0.657	0.621	15.28
4-Chlorotoluene	0.817	0.805	0.667	0.982	0.838	0.822	13.60
Dibromochloromethane	0.483	0.568	0.496	0.668	0.647	0.572	14.76
1,2-Dibromo-3-chloropropane			0.052	0.098	0.11	0.087	35.13
1,2-Dibromoethane (EDB)		0.384	0.351	0.468	0.447	0.413	13.20
Dibromomethane		0.441	0.405	0.589	0.536	0.493	17.21
1,2-Dichlorobenzene	0.790	0.86	0.725	1.045	0.898	0.864	14.03
1,3-Dichlorobenzene	0.921	0.956	0.838	1.272	1.08	1.014	16.67
1,4-Dichlorobenzene	1.159	1.136	0.942	1.357	1.126	1.144	12.88
Dichlorodifluoromethane			0.251	0.637	0.645	0.511	44.14
1,1-Dichloroethane	1.831	2.091	1.753	2.482	2.03	2.037	13.97
1,2-Dichloroethane	1.018	1.166	0.969	1.323	1.09	1.113	12.48
1,1-Dichloroethene	1.566	1.8	1.572	2.414	2.024	1.875	18.97
cis-1,2-Dichloroethene	3.147	3.53	2.907	4.061	2.867	3.302	15.12
trans-1,2-Dichloroethene	1.811	1.98	1.679	2.476	2.02	1.993	15.17
1,2-Dichloropropane	1.227	1.587	1.293	1.734	1.461	1.460	14.28
2,2-Dichloropropane	4.095	4.211	3.457	4.917	3.046	3.945	18.30
cis-1,3-Dichloropropane	0.979	1.144	0.96	1.312	1.151	1.109	13.03
trans-1,3-Dichloropropane	0.552	0.685	0.597	0.826	0.763	0.685	16.60
Diisopropyl ether	0.346	0.37	0.305	0.431	0.403	0.371	13.19
Ethylbenzene	1.098	1.051	0.893	1.25	1.326	1.124	15.17
Hexachlorobutadiene	1.694	1.501	1.338	2.238	1.809	1.716	20.00
Isopropylbenzene	0.761	0.728	0.618	0.919	0.934	0.792	16.88
p-Isopropyltoluene	0.966	0.892	0.745	1.122	1.142	0.974	17.00
Methyl-tert butyl ether	1.149	1.189	1.02	1.525	1.474	1.272	17.15
Methylene Chloride		2.135	1.679	2.224	1.833	1.968	12.95
Naphthalene	0.461	0.421	0.341	0.454	0.437	0.423	11.47
n-Propylbenzene	0.982	0.882	0.758	1.197	1.22	1.008	19.81

Response Factor Report

Method: 6230D Water **Batch:** 092696

H1: 006F0101.D P1: 006R0101.D
H2: 005F0101.D P2: 005R0101.D
H3: 004F0101.D P3: 004R0101.D
H4: 003F0101.D P4: 003R0101.D
H5: 002F0101.D P5: 002R0101.D

Compound	1	2	3	4	5	Avg.	%RSD
Styrene	2.191	2.135	1.768	2.475	2.492	2.212	13.40
1,1,1,2-Tertrachloroethane	2.062	2.1	1.674	2.026	1.781	1.929	9.81
1,1,2,2-Tertrachloroethane	0.738	0.755	0.687	1.003	0.843	0.805	15.42
Tetrachloroethene	3.320	3.055	2.44	3.296	2.183	2.859	18.13
Toluene	1.191	1.178	0.989	1.344	1.4	1.220	13.18
1,2,3-Trichlorobenzene	0.915	0.927	0.808	1.135	0.898	0.937	12.83
1,2,4-Trichlorobenzene	0.958	0.966	0.851	1.352	1.121	1.050	18.51
1,1,1-Trichloroethane	2.285	2.521	2.072	2.991	2.454	2.465	13.87
1,1,2-Trichloroethane	1.484	1.364	0.985	1.129	0.961	1.185	19.57
Trichloroethene	2.154	2.224	1.868	2.67	2.062	2.196	13.52
Trichlorofluromethane	0.857	0.884	0.799	1.371	1.199	1.022	24.43
1,2,3-Trichloropropane	0.474	0.586	0.428	0.512	0.484	0.497	11.73
1,2,4-Trimethylbenzene	1.128	1.047	0.872	1.311	1.334	1.138	16.85
1,3,5-Trimethylbenzene	2.535	2.347	1.967	2.961	3.002	2.562	16.95
Vinyl Chloride	0.910	0.927	0.777	1.088	0.96	0.933	11.94
m/p-Xylene	2.555	2.401	2.009	2.876	2.978	2.564	15.14
o-Xylene	2.191	2.135	1.768	2.475	2.492	2.212	13.40

Calibration Report

Data File Name : C:\HPCHEM\1\DATA\092696\006F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD001
Run Time Bar Code:
Acquired on : 26 Sep 96 03:04 PM
Report Created on: 26 Sep 96 03:46 PM
Last Recalib on : 26 Sep 96 03:45 PM
Multiplier : 1

Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Calibration Table

Pk#	RT	Lvl	µg/L	Amt/Area	Ref Istd I#	Name
1	2.804	1	1.0	4.5068e-006	1	Dichlorodifluorometh...
		2	2.0	4.077e-006		
		3	5.0	2.9559e-006		
		4	10.0	1.1611e-006		
		5	25.0	1.0788e-006		
2	3.079	1	1.0	1.644e-006	1	Chloromethane
		2	2.0	1.3823e-006		
		3	5.0	1.4657e-006		
		4	10.0	1.0596e-006		
		5	25.0	1.0589e-006		
3	3.270	1	1.0	8.2533e-007	1	Vinyl chloride
		2	2.0	7.9812e-007		
		3	5.0	9.5285e-007		
		4	10.0	6.7979e-007		
		5	25.0	7.252e-007		
4	3.840	1	1.0	4.1979e-006	1	Bromomethane
		2	2.0	3.0398e-006		
		3	5.0	3.0527e-006		
		4	10.0	1.9033e-006		
		5	25.0	1.9648e-006		
5	4.005	1	1.0	1.7223e-006	1	Chloroethane
		2	2.0	1.5247e-006		
		3	5.0	1.7727e-006		
		4	10.0	1.213e-006		
		5	25.0	1.3028e-006		
6	4.463	1	1.0	8.7677e-007	1	Trichlorofluorometha...
		2	2.0	8.3765e-007		
		3	5.0	9.2689e-007		
		4	10.0	5.3962e-007		
		5	25.0	5.8045e-007		
7	5.408	1	1.0	4.7961e-007	1	1,1-Dichloroethene
		2	2.0	4.111e-007		
		3	5.0	4.7126e-007		
		4	10.0	3.064e-007		
		5	25.0	3.4391e-007		
8	6.286	1	1.0	3.4704e-007	1	Methylene chloride
		2	2.0	3.4664e-007		
		3	5.0	4.41e-007		
		4	10.0	3.3264e-007		
		5	25.0	3.7956e-007		
	6.789	1	1.0	4.1476e-007	1	t-1,2-Dichloroethene
		2	2.0	3.7381e-007		
		3	5.0	4.4101e-007		
		4	10.0	2.9878e-007		

		5	25.0	3.4455e-007		
10	7.500	1	1.0	4.1019e-007	1	1,1-Dichloroethane
		2	2.0	3.5392e-007		
		3	5.0	4.2256e-007		
		4	10.0	2.9805e-007		
		5	25.0	3.4279e-007		
11	8.460	1	2.0	4.7743e-007	1	c-12Diclethene ; 22D...
		2	4.0	4.1929e-007		
		3	10.0	5.0962e-007		
		4	20.0	3.6434e-007		
		5	50.0	4.8539e-007		
12	8.842	1	1.0	1.2586e-006	1	Bromochloromethane
		2	2.0	9.378e-007		
		3	5.0	1.0574e-006		
		4	10.0	7.1517e-007		
		5	25.0	7.6824e-007		
13	8.980	1	1.0	2.8984e-007	1	Chloroform
		2	2.0	2.709e-007		
		3	5.0	3.4388e-007		
		4	10.0	2.5426e-007		
		5	25.0	3.0828e-007		
14	9.269	1	1.0	3.2882e-007	1	1,1,1-Trichloroethan...
		2	2.0	2.9357e-007		
		3	5.0	3.5747e-007		
		4	10.0	2.4732e-007		
		5	25.0	2.8357e-007		
[illegible]	9.534	1	2.0	3.6693e-007	1	Carbon Tetracl ; 11D...
		2	4.0	3.5149e-007		
		3	10.0	4.2852e-007		
		4	20.0	3.0091e-007		
		5	50.0	4.5696e-007		
16	9.854	1	1.0	7.3819e-007	1	1,2-Dichloroethane
		2	2.0	6.3483e-007		
		3	5.0	7.6428e-007		
		4	10.0	5.5926e-007		
		5	25.0	6.3841e-007		
17	10.834	1	1.0	3.488e-007	1	Trichloroethene
		2	2.0	3.3277e-007		
		3	5.0	3.9639e-007		
		4	10.0	2.7707e-007		
		5	25.0	3.3744e-007		
18	11.150	1	1.0	6.1238e-007	1	1,2-Dichloropropane
		2	2.0	4.6628e-007		
		3	5.0	5.729e-007		
		4	10.0	4.265e-007		
		5	25.0	4.7625e-007		
19	11.333	1	1.0	2.2445e-006	1	Dibromomethane
		2	2.0	1.6786e-006		
		3	5.0	1.8285e-006		
		4	10.0	1.2554e-006		
		5	25.0	1.2976e-006		
20	11.573	1	1.0	6.7484e-007	1	Bromodichloromethane
		2	2.0	5.591e-007		
		3	5.0	6.6615e-007		
		4	10.0	4.8069e-007		
		5	25.0	5.1659e-007		
21	12.238	1	1.0	7.6718e-007	1	c-1,3-Dichloropropen...
		2	2.0	6.4676e-007		
		3	5.0	7.7182e-007		

		4	10.0	5.6373e-007			
		5	25.0	6.044e-007			
22	13.062	1	1.0	1.361e-006		1	t-1,3-Dichloropropen...
		2	2.0	1.081e-006			
		3	5.0	1.2413e-006			
		4	10.0	8.9508e-007			
		5	25.0	9.117e-007			
23	13.207	1	5.0	4.695e-007	ISTD	1	* Bromochloropropane...
		2	5.0	4.6256e-007			
		3	5.0	4.6289e-007			
		4	5.0	4.6235e-007			
		5	5.0	4.3494e-007			
		6	5.0	4.6289e-007			
24	13.328	1	1.0	5.0622e-007		1	1,1,2-Trichloroethan...
		2	2.0	5.4245e-007			
		3	5.0	7.5223e-007			
		4	10.0	6.5512e-007			
		5	25.0	7.2409e-007			
25	13.578	1	2.0	4.5255e-007		1	Tetraclethane ; 13Di...
		2	4.0	4.8454e-007			
		3	10.0	6.0712e-007			
		4	20.0	4.4895e-007			
		5	50.0	6.377e-007			
26	13.936	1	1.0	1.5545e-006		1	Dibromochloromethane
		2	2.0	1.3039e-006			
		3	5.0	1.4942e-006			
		4	10.0	1.1077e-006			
		5	25.0	1.0754e-006			
27	14.108	1	1.0	2.2911e-006		1	1,2-Dibromoethane (E...
		2	2.0	1.9253e-006			
		3	5.0	2.1125e-006			
		4	10.0	1.581e-006			
		5	25.0	1.5561e-006			
28	14.851	1	1.0	1.1462e-006		1	Chlorobenzene
		2	2.0	9.8716e-007			
		3	5.0	1.1373e-006			
		4	10.0	8.2053e-007			
		5	25.0	8.4582e-007			
29	14.970	1	1.0	3.6428e-007		1	1,1,1,2-Tetrachloroe...
		2	2.0	3.5242e-007			
		3	5.0	4.4232e-007			
		4	10.0	3.6518e-007			
		5	25.0	3.9078e-007			
30	16.112	1	1.0	6.8867e-006		1	Bromoform
		2	2.0	4.8571e-006			
		3	5.0	4.3993e-006			
		4	10.0	2.5109e-006			
		5	25.0	2.385e-006			
31	16.497	6	5.0	1.476e-006		1	$ 1,4-Dichlorobutane...
32	16.827	1	2.0	2.0357e-006		1	Bromobenzene ; 123tr...
		2	4.0	1.9599e-006			
		3	10.0	2.1571e-006			
		4	20.0	1.475e-006			
		5	50.0	1.6505e-006			
33	16.854	1	1.0	1.5837e-006		1	1,1,2,2-Tetrachloroe...
		2	2.0	1.2632e-006			
		3	5.0	1.731e-006			
		4	10.0	1.4445e-006			
		5	25.0	1.4382e-006			

34	17.134	1	1.0	1.0565e-006	1	2-Chlorotoluene

		2	2.0	9.5705e-007		
		3	5.0	1.1253e-006		
		4	10.0	7.4844e-007		
		5	25.0	8.1245e-007		
35	17.299	1	1.0	9.1917e-007	1	4-Chlorotoluene
		2	2.0	9.1936e-007		
		3	5.0	1.1097e-006		
		4	10.0	7.5349e-007		
		5	25.0	8.3031e-007		
36	18.291	1	1.0	8.1523e-007	1	1,3-Dichlorobenzene
		2	2.0	7.7401e-007		
		3	5.0	8.8413e-007		
		4	10.0	5.8138e-007		
		5	25.0	6.4413e-007		
37	18.428	1	1.0	6.4839e-007	1	1,4-Dichlorobenzene
		2	2.0	6.5153e-007		
		3	5.0	7.8641e-007		
		4	10.0	5.4523e-007		
		5	25.0	6.1819e-007		
38	19.008	1	1.0	9.5039e-007	1	1,2-Dichlorobenzene
		2	2.0	8.602e-007		
		3	5.0	1.022e-006		
		4	10.0	7.0797e-007		
		5	25.0	7.7532e-007		
[illegible]	20.226	1	1.0	1.9841e-005	1	1,2-Dibromo-3-chloro...
		2	2.0	1.4544e-005		
		3	5.0	1.4127e-005		
		4	10.0	7.5443e-006		
		5	25.0	6.3011e-006		
40	21.543	1	1.0	7.8378e-007	1	1,2,4-Trichlorobenze...
		2	2.0	7.6644e-007		
		3	5.0	8.6984e-007		
		4	10.0	5.4722e-007		
		5	25.0	6.2098e-007		
41	21.835	1	1.0	4.434e-007	1	Hexachlorobutadiene
		2	2.0	4.9305e-007		
		3	5.0	5.5348e-007		
		4	10.0	3.3048e-007		
		5	25.0	3.8473e-007		
42	22.311	1	1.0	8.2119e-007	1	1,2,3-Trichlorobenze...
		2	2.0	7.9815e-007		
		3	5.0	9.1615e-007		
		4	10.0	6.5194e-007		
		5	25.0	7.7485e-007		

Calibration Settings

Title:
8021 HALL 5mL

Reference window:	5.000 %
Non-reference window:	5.000 %
Units of amount:	µg/L
Multiplier:	1.0
RF uncal peaks:	0.0
ISTD# to adjust uncal peaks:	0
Sample Amount:	0.0

Sample ISTD Information

I#	Amount
1	5.0

Multilevel Information

Fit: Linear
Origin: Force

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Internal Standard Report

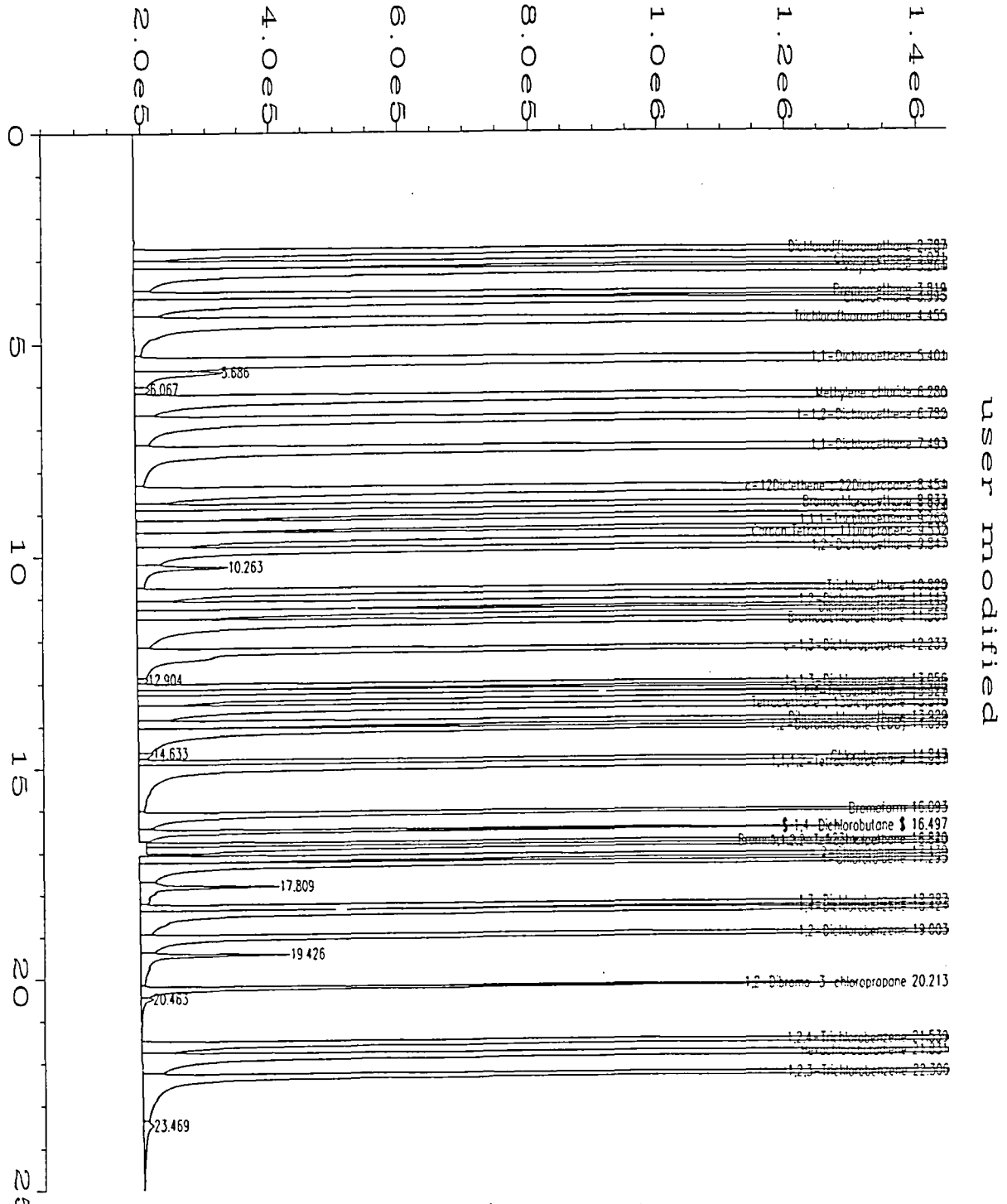
Data File Name : C:\HPCHEM\1\DATA\092696\002F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD025
Run Time Bar Code:
Acquired on : 26 Sep 96 12:56 PM
Report Created on: 26 Sep 96 03:42 PM
Last Recalib on : 26 Sep 96 03:42 PM
Multiplier : 1

Page Number : 1
Vial Number : 2
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 1 in C:\HPCHEM\1\DATA\092696\002F0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.787	2.31743E+007	VV	0.075	1	25.062	Dichlorodifluoromethane
3.071	2.36091E+007	VV	0.070	1	22.817	Chloromethane
3.264	3.44731E+007	VV	0.080	1	24.416	Vinyl chloride
3.819	1.27236E+007	VV	0.088	1	23.809	Bromomethane
3.995	1.91902E+007	VV	0.094	1	22.256	Chloroethane
4.455	4.30697E+007	VV	0.100	1	24.406	Trichlorofluoromethane
5.401	7.26939E+007	VV	0.096	1	25.094	1,1-Dichloroethene
6.280	6.58655E+007	VV	0.088	1	25.053	Methylene chloride
6.782	7.25575E+007	VV	0.082	1	24.951	t-1,2-Dichloroethene
7.493	7.29308E+007	VV	0.086	1	25.092	1,1-Dichloroethane
8.454	1.0301E+008	VV	0.103	1	49.821	c-12Diclethene ; 22Diclpropane
[illegible].833	3.25418E+007	VV	0.067	1	25.465	Bromochloromethane
[illegible].974	8.10943E+007	VV	0.081	1	24.944	Chloroform
9.262	8.81619E+007	VV	0.090	1	25.018	1,1,1-Trichloroethane
9.532	1.09418E+008	VV	0.111	1	48.028	Carbon Tetracl ; 11Diclpropene
9.847	3.91599E+007	VV	0.066	1	25.091	1,2-Dichloroethane
10.828	7.40879E+007	VV	0.076	1	24.802	Trichloroethene
11.143	5.24932E+007	VV	0.070	1	25.031	1,2-Dichloropropane
11.325	1.92664E+007	VV	0.063	1	25.659	Dibromomethane
11.567	4.83939E+007	VV	0.067	1	25.185	Bromodichloromethane
12.233	4.13633E+007	VV	0.059	1	25.215	c-1,3-Dichloropropene
13.056	2.74214E+007	VV	0.052	1	25.225	t-1,3-Dichloropropene
13.206	1.14957E+007	VV	0.063	1-I	5.000	* Bromochloropropane *
13.327	3.45262E+007	VV	0.060	1	25.078	1,1,2-Trichloroethane
13.576	7.84063E+007	VV	0.080	1	48.141	Tetraclethane ; 13Diclpropane
13.929	2.32464E+007	VV	0.060	1	25.270	Dibromochloromethane
14.096	1.60659E+007	VV	0.064	1	25.254	1,2-Dibromoethane (EDB)
14.847	2.9557E+007	VV	0.054	1	24.955	Chlorobenzene
14.967	6.39738E+007	VV	0.066	1	24.890	1,1,1,2-Tetrachloroethane
16.093	1.04824E+007	VV	0.062	1	25.620	Bromoform
16.497	3904345	VF	0.057	1	5.452	$ 1,4-Dichlorobutane $
16.820	3.0293E+007	MF	0.058	1	50.213	Bromobenzene ; 123triclpropane
16.845	1.73831E+007	FM	0.032	1	25.270	1,1,2,2-Tetrachloroethane
17.130	3.0771E+007	FV	0.056	1	25.018	2-Chlorotoluene
17.295	3.01092E+007	VV	0.054	1	24.971	4-Chlorotoluene
18.287	3.88121E+007	VV	0.053	1	25.015	1,3-Dichlorobenzene
18.424	4.04404E+007	VV	0.054	1	24.925	1,4-Dichlorobenzene
19.003	3.22449E+007	VV	0.055	1	25.033	1,2-Dichlorobenzene
[illegible].213	3967556	VV	0.056	1	26.171	1,2-Dibromo-3-chloropropane
[illegible].539	4.02592E+007	PV	0.055	1	25.119	1,2,4-Trichlorobenzene
21.831	6.49807E+007	VV	0.065	1	24.859	Hexachlorobutadiene
22.306	3.22645E+007	VV	0.055	1	24.929	1,2,3-Trichlorobenzene

User Modified



Data File Name	: C:\HPCHEM\1\DATA\092696\002F0101.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 2
Sample Name	: VSTD025	Injection Number	: 1
Real Time Bar Code:		Sequence Line	: 1
Acquired on	: 26 Sep 96 12:56 PM	Instrument Method	: 502_HAL.MTH
Report Created on	: 26 Sep 96 03:42 PM	Analysis Method	: 502_HAL.MTH
Last Recalib on	: 26 Sep 96 03:42 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Internal Standard Report

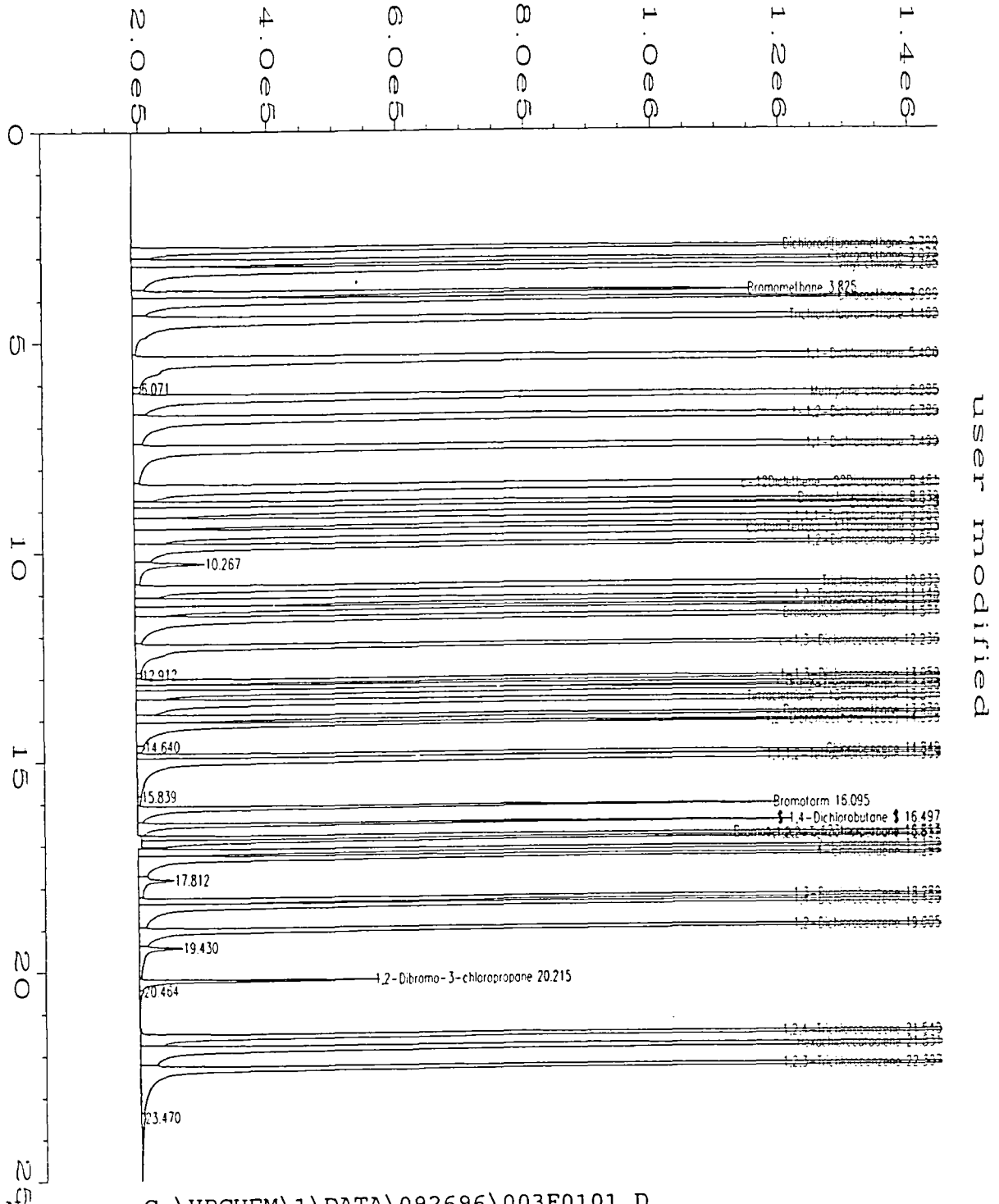
Data File Name : C:\HPCHEM\1\DATA\092696\003F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD010
Run Time Bar Code:
Acquired on : 26 Sep 96 01:28 PM
Report Created on: 26 Sep 96 03:43 PM
Last Recalib on : 26 Sep 96 03:43 PM
Multiplier : 1

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 1 in C:\HPCHEM\1\DATA\092696\003F0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.790	8612749	VV	0.072	1	10.084	Dichlorodifluoromethane
3.072	9437354	VV	0.068	1	9.354	Chloromethane
3.265	1.47104E+007	VV	0.082	1	10.620	Vinyl chloride
3.825	5254146	VV	0.084	1	10.650	Bromomethane
3.999	8244112	VV	0.091	1	9.602	Chloroethane
4.462	1.85317E+007	VV	0.100	1	10.724	Trichlorofluoromethane
5.406	3.26373E+007	VV	0.095	1	11.528	1,1-Dichloroethene
6.285	3.00628E+007	VV	0.082	1	11.452	Methylene chloride
6.789	3.34698E+007	VV	0.078	1	11.675	t-1,2-Dichloroethene
7.499	3.3551E+007	VV	0.084	1	11.714	1,1-Dichloroethane
8.461	5.4893E+007	VV	0.078	1	26.333	c-12Diclethene ; 22Diclpropane
8.839	1.39827E+007	VV	0.066	1	11.498	Bromochloromethane
[illegible].979	3.93301E+007	VV	0.075	1	12.124	Chloroform
[illegible].267	4.04336E+007	VV	0.084	1	11.664	1,1,1-Trichloroethane
9.533	6.64652E+007	VV	0.078	1	28.609	Carbon Tetracl ; 11Diclpropene
9.851	1.78808E+007	VV	0.065	1	11.705	1,2-Dichloroethane
10.832	3.60919E+007	VV	0.064	1	12.200	Trichloroethene
11.148	2.34464E+007	VV	0.065	1	11.520	1,2-Dichloropropane
11.329	7965354	VV	0.062	1	11.193	Dibromomethane
11.571	2.08036E+007	VV	0.064	1	11.320	Bromodichloromethane
12.236	1.77391E+007	VV	0.057	1	11.275	c-1,3-Dichloropropene
13.059	1.11722E+007	VV	0.049	1	10.946	t-1,3-Dichloropropene
13.207	1.08143E+007	VV	0.061	1-I	5.000	* Bromochloropropane *
13.330	1.52645E+007	VV	0.059	1	11.183	1,1,2-Trichloroethane
13.577	4.45483E+007	VV	0.059	1	27.057	Tetraclethane ; 13Diclpropane
13.930	9027315	VV	0.057	1	10.652	Dibromochloromethane
14.098	6325268	VV	0.066	1	10.744	1,2-Dibromoethane (EDB)
14.849	1.21872E+007	VV	0.051	1	10.825	Chlorobenzene
14.969	2.73836E+007	VV	0.061	1	10.991	1,1,1,2-Tetrachloroethane
16.095	3982563	VV	0.059	1	10.853	Bromoform
16.497	3621944	VF	0.054	1	5.376	$ 1,4-Dichlorobutane $
16.817	1.35589E+007	MF	0.061	1	23.455	Bromobenzene ; 123triclpropane
16.851	6922809	FM	0.040	1	10.459	1,1,2,2-Tetrachloroethane
17.132	1.33611E+007	FV	0.052	1	11.256	2-Chlorotoluene
17.297	1.32715E+007	VV	0.052	1	11.345	4-Chlorotoluene
18.289	1.72003E+007	VV	0.050	1	11.457	1,3-Dichlorobenzene
18.426	1.83408E+007	VV	0.051	1	11.556	1,4-Dichlorobenzene
19.005	1.41249E+007	VV	0.052	1	11.355	1,2-Dichlorobenzene
[illegible].215	1325510	VV	0.054	1	10.033	1,2-Dibromo-3-chloropropane
[illegible].540	1.82742E+007	PV	0.051	1	11.727	1,2,4-Trichlorobenzene
21.831	3.02591E+007	VV	0.060	1	11.753	Hexachlorobutadiene
22.307	1.53388E+007	VV	0.055	1	12.079	1,2,3-Trichlorobenzene

User Modified



Data File Name : C:\HPCHEM\1\DATA\092696\003F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD010
Real Time Bar Code:
Acquired on : 26 Sep 96 01:28 PM
Report Created on: 26 Sep 96 03:43 PM
Last Recalib on : 26 Sep 96 03:43 PM
Multiplier : 1

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Internal Standard Report

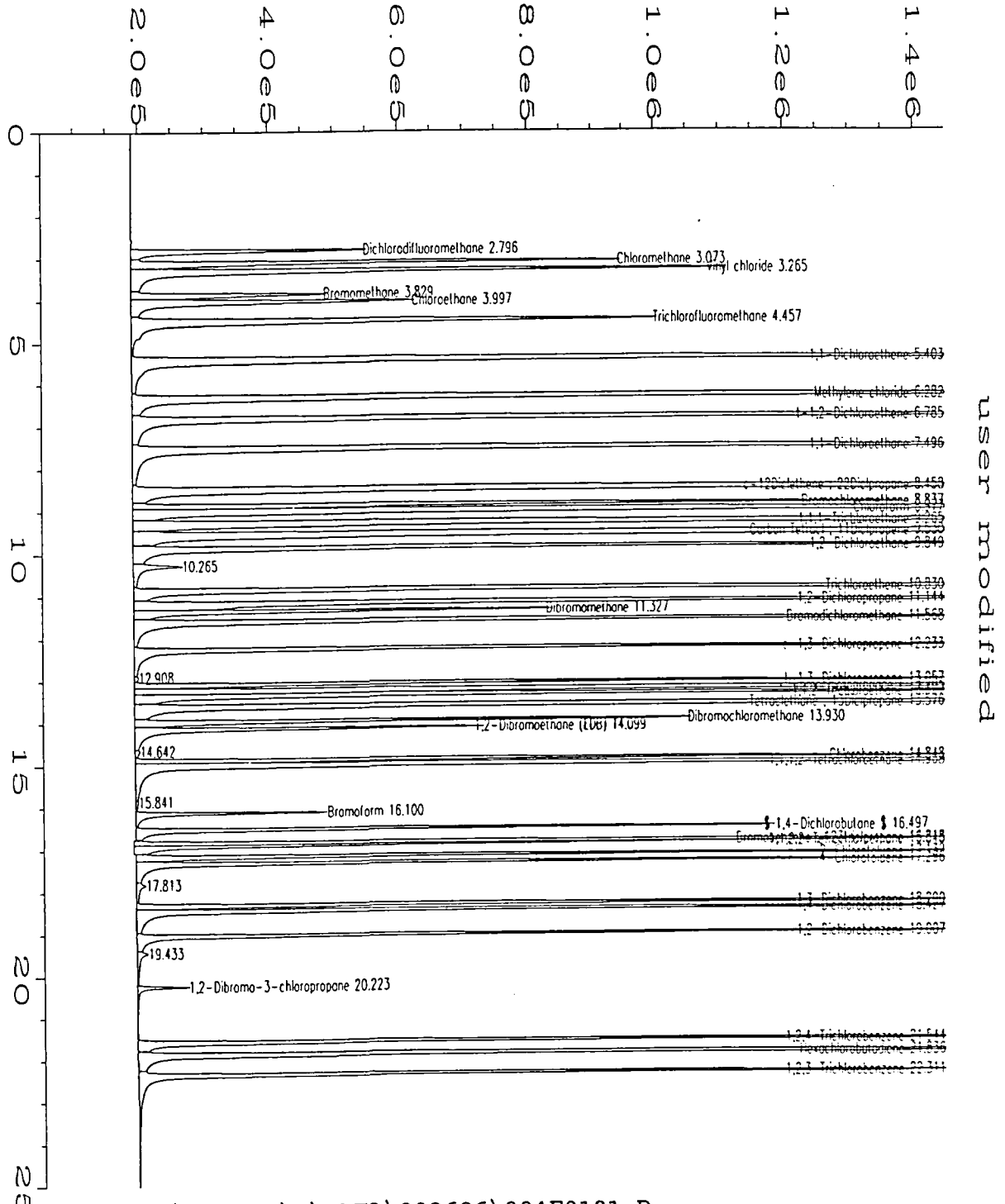
Data File Name : C:\HPCHEM\1\DATA\092696\004F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD005
Run Time Bar Code:
Acquired on : 26 Sep 96 02:00 PM
Report Created on: 26 Sep 96 03:44 PM
Last Recalib on : 26 Sep 96 03:44 PM
Multiplier : 1

Page Number : 1
Vial Number : 4
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 1 in C:\HPCHEM\1\DATA\092696\004F0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.796	1691548	VV	0.072	1	2.898	Dichlorodifluoromethane
3.073	3411388	VV	0.068	1	3.256	Chloromethane
3.265	5247396	VV	0.085	1	3.639	Vinyl chloride
3.829	1637876	VV	0.086	1	3.650	Bromomethane
3.997	2820581	VV	0.097	1	2.869	Chloroethane
4.457	5394373	VV	0.101	1	3.092	Trichlorofluoromethane
5.403	1.06098E+007	VV	0.093	1	3.725	1,1-Dichloroethene
6.282	1.13379E+007	VV	0.081	1	3.924	Methylene chloride
6.785	1.13377E+007	VV	0.078	1	3.777	t-1,2-Dichloroethene
7.496	1.18327E+007	VV	0.084	1	3.962	1,1-Dichloroethane
8.458	1.96226E+007	VV	0.078	1	8.229	c-12Diclethene ; 22Diclpropane
[illegible]837	4728394	VV	0.063	1	4.143	Bromochloromethane
[illegible].977	1.45398E+007	VV	0.073	1	4.073	Chloroform
9.265	1.39871E+007	VV	0.084	1	3.875	1,1,1-Trichloroethane
9.530	2.33364E+007	VV	0.076	1	7.575	Carbon Tetracl ; 11Diclpropene
9.849	6542121	VV	0.065	1	4.115	1,2-Dichloroethane
10.830	1.26138E+007	VV	0.062	1	3.930	Trichloroethene
11.144	8727525	VV	0.067	1	4.255	1,2-Dichloropropane
11.327	2734535	VV	0.065	1	4.030	Dibromomethane
11.568	7505846	VV	0.064	1	4.184	Bromodichloromethane
12.233	6478179	VV	0.058	1	4.181	c-1,3-Dichloropropene
13.057	4028026	VV	0.051	1	4.204	t-1,3-Dichloropropene
13.205	1.08017E+007	VV	0.062	1-I	5.000	* Bromochloropropane *
13.327	6646919	VV	0.062	1	4.440	1,1,2-Trichloroethane
13.576	1.64711E+007	VV	0.059	1	7.852	Tetraclethane ; 13Diclpropane
13.930	3346247	VV	0.060	1	4.322	Dibromochloromethane
14.099	2366895	VV	0.127	1	4.336	1,2-Dibromoethane (EDB)
14.848	4396381	VV	0.052	1	4.043	Chlorobenzene
14.968	1.1304E+007	VV	0.062	1	4.375	1,1,1,2-Tetrachloroethane
16.100	1136546	VV	0.058	1	3.970	Bromoform
16.497	3387437	VF	0.054	1	5.000	$ 1,4-Dichlorobutane $
16.818	4635955	MF	0.058	1	8.217	Bromobenzene ; 123triclpropane
16.848	2888457	FM	0.043	1	4.392	1,1,2,2-Tetrachloroethane
17.132	4443259	FV	0.054	1	3.806	2-Chlorotoluene
17.296	4505740	VV	0.054	1	3.823	4-Chlorotoluene
18.290	5655303	VV	0.049	1	3.804	1,3-Dichlorobenzene
18.427	6358008	VV	0.053	1	3.869	1,4-Dichlorobenzene
19.007	4892410	VV	0.054	1	3.958	1,2-Dichlorobenzene
[illegible]223	353928	VV	0.065	1	3.769	1,2-Dibromo-3-chloropropane
[illegible].544	5748158	PV	0.052	1	3.716	1,2,4-Trichlorobenzene
21.836	9033779	VV	0.059	1	3.374	Hexachlorobutadiene
22.311	5457622	VBA	0.057	1	4.080	1,2,3-Trichlorobenzene

User Modified



Data File Name : C:\HPCHEM\1\DATA\092696\004F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD005
Run Time Bar Code:
Acquired on : 26 Sep 96 02:00 PM
Report Created on: 26 Sep 96 03:44 PM
Last Recalib on : 26 Sep 96 03:44 PM
Multiplier : 1

Page Number : 1
Vial Number : 4
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Internal Standard Report

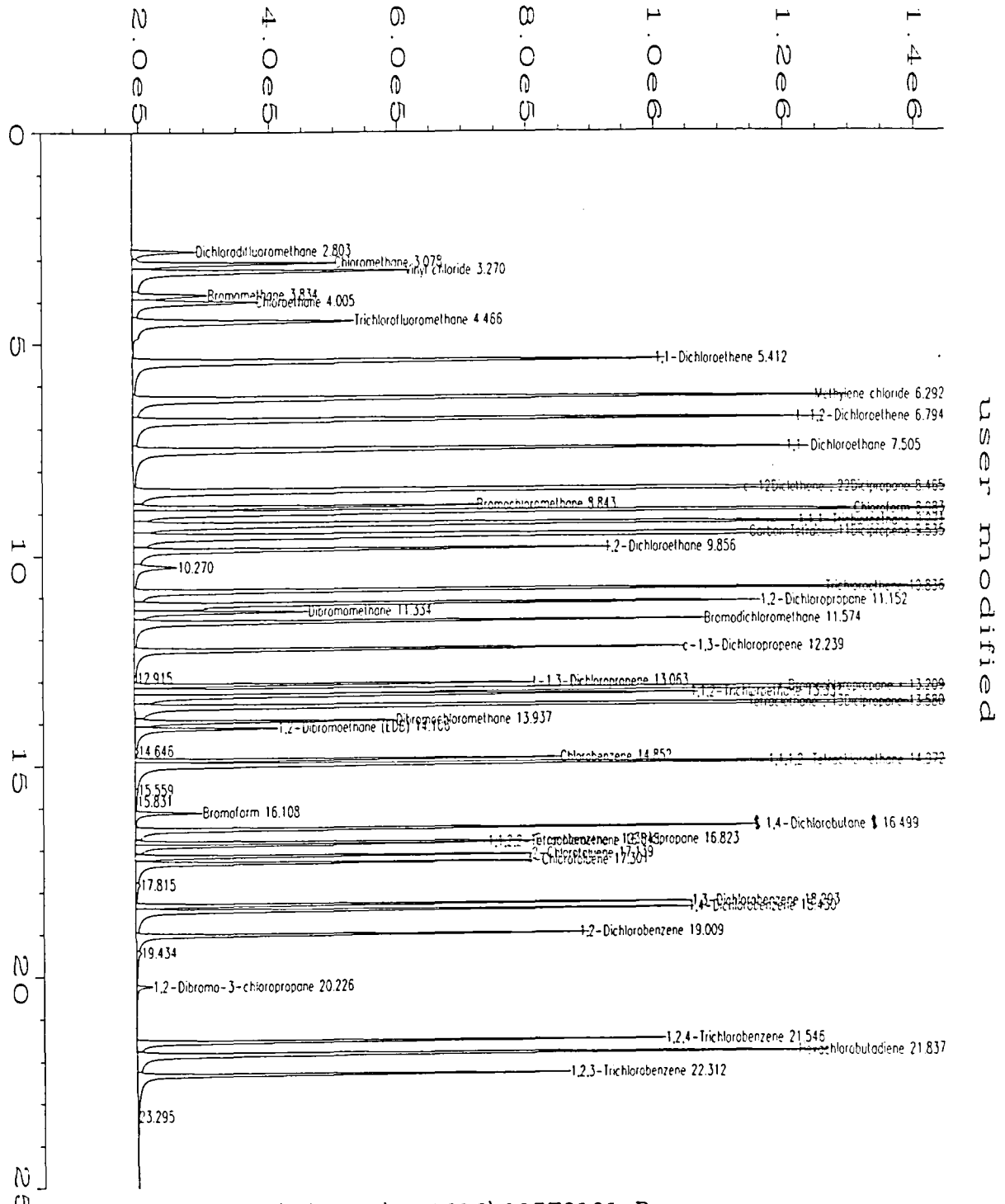
Data File Name : C:\HPCHEM\1\DATA\092696\005F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD002
Run Time Bar Code:
Acquired on : 26 Sep 96 02:32 PM
Report Created on: 26 Sep 96 03:45 PM
Last Recalib on : 26 Sep 96 03:45 PM
Multiplier : 1

Page Number : 1
Vial Number : 5
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 1 in C:\HPCHEM\1\DATA\092696\005F0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.803	490559	VV	0.073	1	1.899	Dichlorodifluoromethane
3.078	1446855	VV	0.068	1	1.596	Chloromethane
3.270	2505894	VV	0.084	1	1.774	Vinyl chloride
3.834	657931	VV	0.088	1	1.844	Bromomethane
4.005	1311691	VV	0.096	1	1.491	Chloroethane
4.466	2387637	VV	0.105	1	1.673	Trichlorofluoromethane
5.412	4864998	VV	0.091	1	1.782	1,1-Dichloroethene
6.292	5769673	VV	0.082	1	1.753	Methylene chloride
6.794	5350242	VV	0.076	1	1.732	t-1,2-Dichloroethene
7.505	5650925	VV	0.082	1	1.791	1,1-Dichloroethane
8.465	9539987	VV	0.073	1	2.995	c-12Diclethene ; 22Diclpropane
[illegible]843	2132643	VV	0.062	1	1.999	Bromochloromethane
[illegible]983	7382683	VV	0.070	1	1.743	Chloroform
9.271	6812729	VV	0.082	1	1.802	1,1,1-Trichloroethane
9.535	1.13801E+007	VV	0.072	1	1.999	Carbon Tetracl ; 11Diclpropene
9.856	3150448	VV	0.064	1	1.837	1,2-Dichloroethane
10.836	6010181	VV	0.059	1	1.637	Trichloroethene
11.152	4289264	VV	0.066	1	1.969	1,2-Dichloropropane
11.334	1191459	VV	0.066	1	1.778	Dibromomethane
11.574	3577146	VV	0.061	1	2.016	Bromodichloromethane
12.239	3092318	VV	0.056	1	2.002	c-1,3-Dichloropropene
13.063	1850069	VV	0.047	1	2.079	t-1,3-Dichloropropene
13.209	1.08094E+007	VV	0.061	1-I	5.000	* Bromochloropropane *
13.331	3687007	VV	0.063	1	2.029	1,1,2-Trichloroethane
13.580	8255329	VV	0.056	1	2.361	Tetraclethane ; 13Diclpropane
13.937	1533837	VV	0.058	1	2.191	Dibromochloromethane
14.106	1038817	VV	0.067	1	2.105	1,2-Dibromoethane (EDB)
14.852	2026007	VV	0.048	1	1.971	Chlorobenzene
14.972	5675025	VV	0.061	1	2.002	1,1,1,2-Tetrachloroethane
16.108	411767	VV	0.058	1	2.131	Bromoform
16.499	3265810	VF	0.053	1	4.817	$ 1,4-Dichlorobutane $
16.823	2040892	MF	0.055	1	3.683	Bromobenzene ; 123triclpropane
16.848	1583238	FM	0.048	1	2.290	1,1,2,2-Tetrachloroethane
17.139	2089746	MM	0.056	1	1.874	2-Chlorotoluene
17.301	2175426	FV	0.053	1	1.856	4-Chlorotoluene
18.293	2583959	VV	0.047	1	1.801	1,3-Dichlorobenzene
18.430	3069714	VV	0.053	1	1.785	1,4-Dichlorobenzene
19.009	2325039	VV	0.051	1	1.889	1,2-Dichlorobenzene
[illegible]226	137517	VV	0.075	1	2.342	1,2-Dibromo-3-chloropropane
21.546	2609454	PV	0.049	1	1.749	1,2,4-Trichlorobenzene
21.837	4056406	VV	0.059	1	1.564	Hexachlorobutadiene
22.312	2505792	VV	0.055	1	1.667	1,2,3-Trichlorobenzene

User Modified



user modified

Data File Name : C:\HPCHEM\1\DATA\092696\005F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD002
Run Time Bar Code:
Acquired on : 26 Sep 96 02:32 PM
Report Created on: 26 Sep 96 03:45 PM
Last Recalib on : 26 Sep 96 03:45 PM
Multiplier : 1

Page Number : 1
Vial Number : 5
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Internal Standard Report

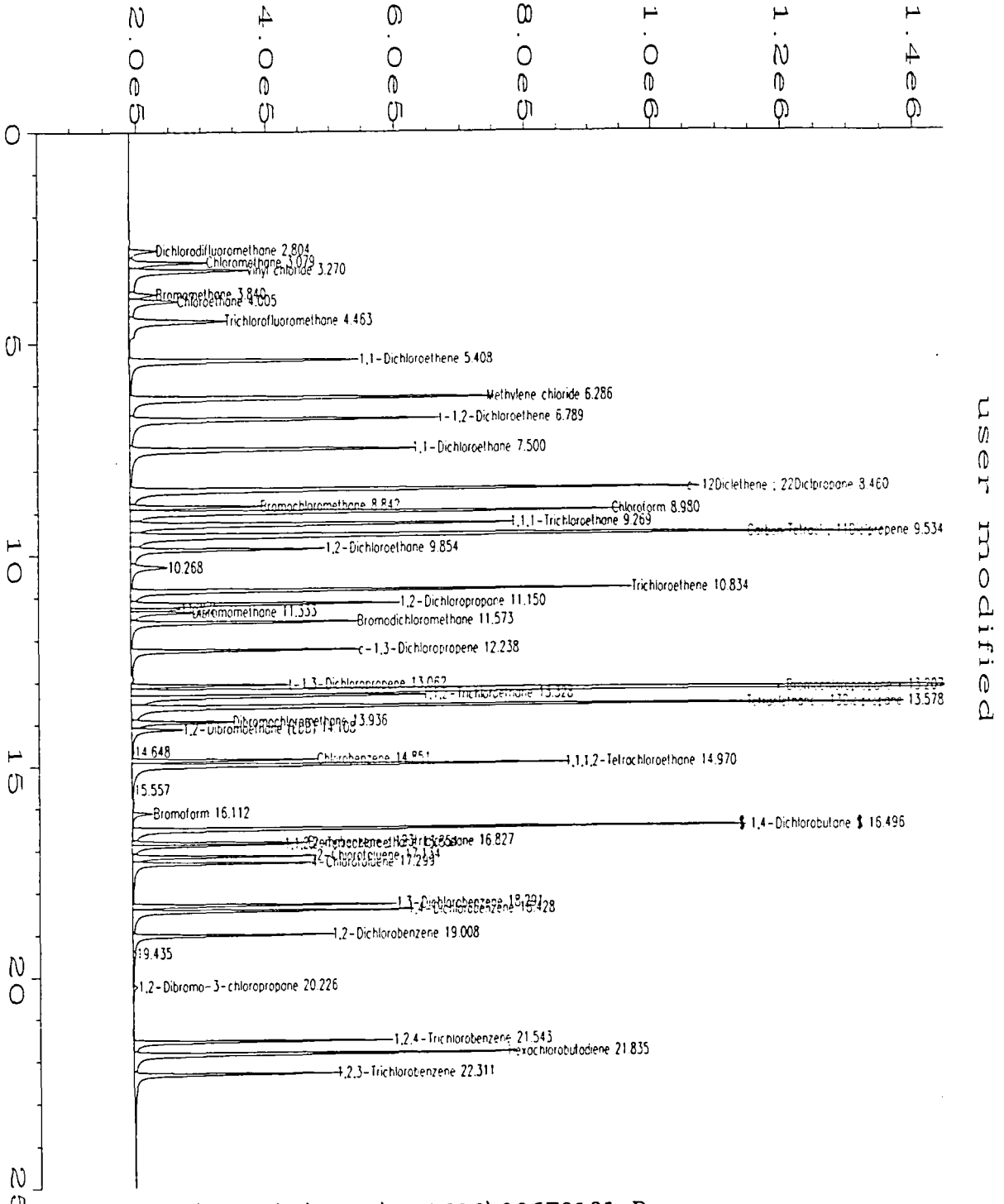
Data File Name : C:\HPCHEM\1\DATA\092696\006F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD001
Run Time Bar Code:
Acquired on : 26 Sep 96 03:04 PM
Report Created on: 26 Sep 96 03:46 PM
Last Recalib on : 26 Sep 96 03:45 PM
Multiplier : 1

Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 1 in C:\HPCHEM\1\DATA\092696\006F0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.804	221888	VV	0.080	1	1.611	Dichlorodifluoromethane
3.079	608257	VV	0.075	1	0.684	Chloromethane
3.270	1211642	VV	0.094	1	0.820	Vinyl chloride
3.840	238212	VV	0.085	1	1.000	Bromomethane
4.005	580615	VV	0.111	1	0.703	Chloroethane
4.463	1140545	VV	0.111	1	0.908	Trichlorofluoromethane
5.408	2085021	VV	0.090	1	0.789	1,1-Dichloroethene
6.286	2881528	VV	0.077	1	0.747	Methylene chloride
6.789	2411030	VV	0.077	1	0.735	t-1,2-Dichloroethene
7.500	2437909	VV	0.084	1	0.716	1,1-Dichloroethane
8.460	4189128	VV	0.073	1	1.118	c-12Diclethene ; 22Diclpropane
8.842	794510	VV	0.060	1	0.920	Bromochloromethane
[illegible].980	3450183	VV	0.071	1	0.684	Chloroform
[illegible].269	3041206	VV	0.080	1	0.748	1,1,1-Trichloroethane
9.534	5450649	VV	0.074	1	0.972	Carbon Tetracl ; 11Diclpropene
9.854	1354662	VV	0.067	1	0.721	1,2-Dichloroethane
10.834	2866937	VV	0.057	1	0.689	Trichloroethene
11.150	1632960	VV	0.061	1	0.704	1,2-Dichloropropane
11.333	445541	VV	0.067	1	0.729	Dibromomethane
11.573	1481822	VV	0.063	1	0.887	Bromodichloromethane
12.238	1303470	VV	0.056	1	0.877	c-1,3-Dichloropropene
13.062	734764	VV	0.047	1	1.031	t-1,3-Dichloropropene
13.207	1.06496E+007	VV	0.061	1-I	5.000	* Bromochloropropane *
13.328	1975440	VV	0.064	1	0.843	1,1,2-Trichloroethane
13.578	4419380	VV	0.058	1	1.160	Tetraclethane ; 13Diclpropane
13.936	643294	VV	0.061	1	1.206	Dibromochloromethane
14.108	436465	VV	0.077	1	1.141	1,2-Dibromoethane (EDB)
14.851	872420	VV	0.048	1	0.953	Chlorobenzene
14.970	2745166	VV	0.063	1	0.852	1,1,1,2-Tetrachloroethane
16.112	145208	VV	0.067	1	1.493	Bromoform
16.496	3190758	VF	0.052	1	4.777	$ 1,4-Dichlorobutane $
16.827	982473	MF	0.060	1	1.883	Bromobenzene ; 123triclpropane
16.854	631435	FM	0.044	1	0.863	1,1,2,2-Tetrachloroethane
17.134	946554	FV	0.051	1	0.906	2-Chlorotoluene
17.299	1087939	VV	0.057	1	0.926	4-Chlorotoluene
18.291	1226644	VV	0.047	1	0.895	1,3-Dichlorobenzene
18.428	1542289	VV	0.053	1	0.840	1,4-Dichlorobenzene
19.008	1052196	VV	0.051	1	0.868	1,2-Dichlorobenzene
20.226	50400	VV	0.099	1	1.792	1,2-Dibromo-3-chloropropane
[illegible].543	1275861	PV	0.049	1	0.893	1,2,4-Trichlorobenzene
21.835	2255290	VV	0.058	1	0.863	Hexachlorobutadiene
22.311	1217751	VV	0.056	1	0.732	1,2,3-Trichlorobenzene

User Modified



user modified

Data File Name	: C:\HPCHEM\1\DATA\092696\006F0101.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 6
Sample Name	: VSTD001	Injection Number	: 1
Real Time Bar Code:		Sequence Line	: 1
Acquired on	: 26 Sep 96 03:04 PM	Instrument Method	: 502_HAL.MTH
Report Created on	: 26 Sep 96 03:46 PM	Analysis Method	: 502_HAL.MTH
Last Recalib on	: 26 Sep 96 03:45 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Calibration Report

Data File Name	: C:\HPCHEM\1\DATA\092696\006R0101.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 6
Sample Name	: VSTD001	Injection Number	: 1
Run Time Bar Code	:	Sequence Line	: 1
Acquired on	: 26 Sep 96 03:04 PM	Instrument Method	: 502_HAL.MTH
Report Created on	: 26 Sep 96 03:51 PM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 26 Sep 96 03:50 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Calibration Table

Pk#	RT	Lvl	µg/L	Amt/Area	Ref	Istd	I#	Name
1	3.243	1	1.0	1.0768e-004			1	(H) Vinyl chloride
		2	2.0	1.0507e-004				
		3	5.0	1.2262e-004				
		4	10.0	8.1778e-005				
		5	25.0	7.9263e-005				
2	5.381	1	1.0	3.735e-005			1	(H) 1,1-Dichloroethe...
		2	2.0	3.6516e-005				
		3	5.0	4.2781e-005				
		4	10.0	2.6321e-005				
		5	25.0	2.6717e-005				
3	6.765	1	2.0	3.1952e-005			1	MTBE ; (H) t-12DCE
		2	4.0	2.9987e-005				
		3	10.0	3.5229e-005				
		4	20.0	2.2327e-005				
		5	50.0	2.3174e-005				
4	7.640	1	1.0	5.3098e-005			1	DIPE
		2	2.0	4.8231e-005				
		3	5.0	5.8942e-005				
		4	10.0	3.9551e-005				
		5	25.0	4.2382e-005				
5	8.440	1	1.0	3.4686e-005			1	(H) c-12dce
		2	2.0	3.2006e-005				
		3	5.0	3.8154e-005				
		4	10.0	2.5201e-005				
		5	25.0	2.6227e-005				
6	9.506	1	1.0	3.7052e-005			1	(H) 11-Diclpropene
		2	2.0	3.6607e-005				
		3	5.0	4.2446e-005				
		4	10.0	2.5473e-005				
		5	25.0	2.4772e-005				
7	9.818	1	1.0	1.5374e-005			1	Benzene
		2	2.0	1.4335e-005				
		3	5.0	1.7127e-005				
		4	10.0	1.1476e-005				
		5	25.0	1.1563e-005				
8	10.243	1	5.0	1.1478e-005		ISTD	1	* Fluorobenzene *
		2	5.0	1.114e-005				
		3	5.0	1.1231e-005				
		4	5.0	1.0642e-005				
		5	5.0	1.0673e-005				
		6	5.0	1.1231e-005				
9	10.810	1	1.0	2.4552e-005			1	(H) Trichloroethene
		2	2.0	2.4385e-005				
		3	5.0	2.912e-005				

		4	10.0	1.8644e-005	
		5	25.0	1.8242e-005	
10	11.238	1	0.0	0.0	1 $ a,a,a-Trifluorotol...
		6	5.0	4.0315e-005	
11	12.214	1	1.0	9.4396e-005	1 (H) c-13pene
		2	2.0	8.8033e-005	
		3	5.0	1.0744e-004	
		4	10.0	7.4173e-005	
		5	25.0	7.1924e-005	
12	12.722	1	1.0	1.5416e-005	1 Toluene
		2	2.0	1.513e-005	
		3	5.0	1.8164e-005	
		4	10.0	1.2672e-005	
		5	25.0	1.2199e-005	
13	13.036	1	1.0	9.4605e-005	1 (H) t-13pene
		2	2.0	9.0645e-005	
		3	5.0	1.0911e-004	
		4	10.0	7.8132e-005	
		5	25.0	7.3875e-005	
14	13.556	1	1.0	3.562e-005	1 (H) Tetrachloroethen...
		2	2.0	3.8664e-005	
		3	5.0	4.3394e-005	
		4	10.0	2.6446e-005	
		5	25.0	2.4224e-005	
15	14.827	1	1.0	1.6179e-005	1 (H) Chlorobenzene
		2	2.0	1.6167e-005	
		3	5.0	1.9452e-005	
		4	10.0	1.3822e-005	
		5	25.0	1.3173e-005	
16	14.995	1	1.0	1.6728e-005	1 Ethylbenzene
		2	2.0	1.6963e-005	
		3	5.0	2.0119e-005	
		4	10.0	1.3617e-005	
		5	25.0	1.2878e-005	
17	15.174	1	2.0	1.4375e-005	1 m-Xylene ; p-Xylene
		2	4.0	1.4845e-005	
		3	10.0	1.7887e-005	
		4	20.0	1.1843e-005	
		5	50.0	1.1468e-005	
18	15.787	1	2.0	1.6761e-005	1 o-Xylene ; Styrene
		2	4.0	1.6699e-005	
		3	10.0	2.033e-005	
		4	20.0	1.3757e-005	
		5	50.0	1.3707e-005	
19	16.344	1	1.0	2.4117e-005	1 Isopropylbenzene
		2	2.0	2.4489e-005	
		3	5.0	2.9059e-005	
		4	10.0	1.8523e-005	
		5	25.0	1.8283e-005	
20	16.804	1	1.0	1.899e-005	1 (H) Bromobenzene
		2	2.0	1.9053e-005	
		3	5.0	2.3175e-005	
		4	10.0	1.5666e-005	
		5	25.0	1.556e-005	
21	16.979	1	1.0	1.8696e-005	1 n-Propylbenzene
		2	2.0	2.0201e-005	
		3	5.0	2.37e-005	
		4	10.0	1.4225e-005	
		5	25.0	1.4e-005	

22	17.110	1	1.0	1.6891e-005	1 (H) 2Cltoluene
		2	2.0	1.7461e-005	
		3	5.0	2.106e-005	
		4	10.0	1.359e-005	
		5	25.0	1.3471e-005	
23	17.263	1	2.0	1.4488e-005	1 135-Trimethylbenz ; ...
		2	4.0	1.5191e-005	
		3	10.0	1.8275e-005	
		4	20.0	1.1502e-005	
		5	50.0	1.1378e-005	
24	17.758	1	1.0	2.2793e-005	1 tert-Butylbenzene
		2	2.0	2.3435e-005	
		3	5.0	2.8122e-005	
		4	10.0	1.8032e-005	
		5	25.0	1.7724e-005	
25	17.833	1	1.0	1.6283e-005	1 124-Trimethylbenzene
		2	2.0	1.7024e-005	
		3	5.0	2.0596e-005	
		4	10.0	1.2988e-005	
		5	25.0	1.2801e-005	
26	18.102	1	1.0	2.229e-005	1 sec-Butylbenzene
		2	2.0	2.3894e-005	
		3	5.0	2.8198e-005	
		4	10.0	1.6928e-005	
		5	25.0	1.6609e-005	
	18.268	1	2.0	3.8035e-005	1 p-Isopropyltoluene ;...
		2	4.0	3.9949e-005	
		3	10.0	4.8243e-005	
		4	20.0	3.0343e-005	
		5	50.0	2.99e-005	
28	18.405	1	1.0	2.0355e-005	1 (H) 14dcb
		2	2.0	2.1453e-005	
		3	5.0	2.5888e-005	
		4	10.0	1.6242e-005	
		5	25.0	1.6061e-005	
29	18.977	1	2.0	2.6192e-005	1 n-Butylbenzene ; (H)...
		2	4.0	2.9175e-005	
		3	10.0	3.4552e-005	
		4	20.0	2.028e-005	
		5	50.0	1.9985e-005	
30	21.520	1	1.0	3.3474e-005	1 (H) 124-Triclbenzene
		2	2.0	3.5955e-005	
		3	5.0	4.4424e-005	
		4	10.0	2.7647e-005	
		5	25.0	2.8464e-005	
31	21.812	1	1.0	4.0619e-005	1 (H) Hexaclbutadiene
		2	2.0	4.9114e-005	
		3	5.0	5.6739e-005	
		4	10.0	3.09e-005	
		5	25.0	3.1337e-005	
32	21.896	1	1.0	3.9809e-005	1 Naphthalene
		2	2.0	4.2354e-005	
		3	5.0	5.2762e-005	
		4	10.0	3.7536e-005	
		5	25.0	3.9085e-005	
33	22.287	1	1.0	4.1578e-005	1 (H) 123Triclbenzene
		2	2.0	4.392e-005	
		3	5.0	5.2396e-005	
		4	10.0	3.4961e-005	

Calibration Settings

Title:
8021 HALL 5mL

Reference window:	5.000 %
Non-reference window:	5.000 %
Units of amount:	µg/L
Multiplier:	1.0
RF uncal peaks:	0.0
ISTD# to adjust uncal peaks:	0
Sample Amount:	0.0

Sample ISTD Information

I#	Amount
1	5.0

Multilevel Information

Fit: Linear
Origin: Force

==========

Internal Standard Report

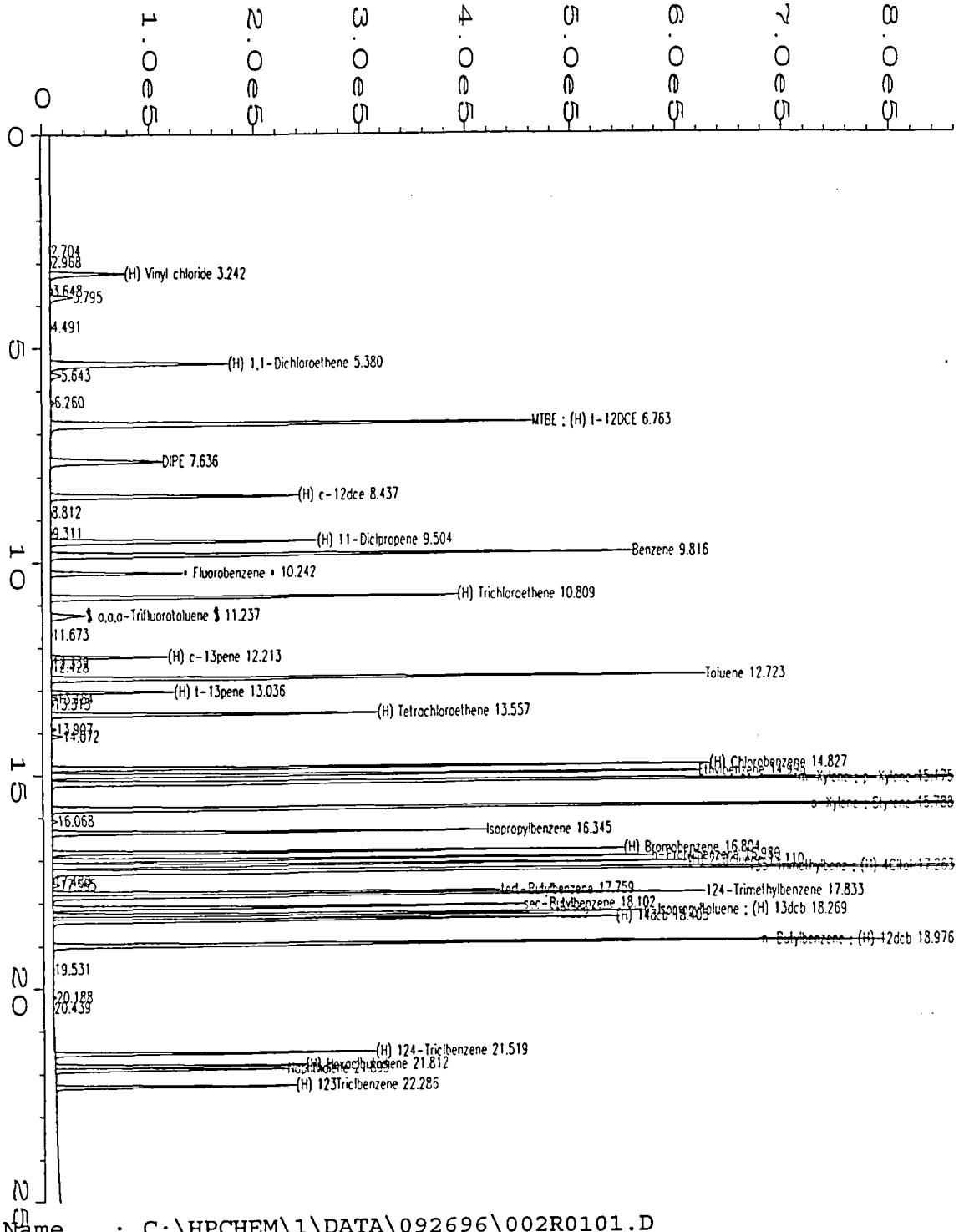
Data File Name : C:\HPCHEM\1\DATA\092696\002R0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD025
Run Time Bar Code:
Acquired on : 26 Sep 96 12:56 PM
Report Created on: 26 Sep 96 03:47 PM
Last Recalib on : 26 Sep 96 03:47 PM
Multiplier : 1

Page Number : 1
Vial Number : 2
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 2 in C:\HPCHEM\1\DATA\092696\002R0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.242	315407	PV	0.069	1	25.315	(H) Vinyl chloride
5.380	935716	BV	0.087	1	25.420	(H) 1,1-Dichloroethene
6.763	2157610	BB	0.073	1	50.979	MTBE ; (H) t-12DCE
7.636	589872	BV	0.088	1	25.568	DIPE
8.437	953213	BV	0.064	1	25.548	(H) c-12dce
9.504	1009196	VV	0.063	1	25.564	(H) 11-Diclpropene
9.816	2162114	PV	0.061	1	25.585	Benzene
10.242	468463	VB	0.059	1-I	5.000	* Fluorobenzene *
10.809	1370450	BV	0.056	1	25.602	(H) Trichloroethene
11.237	164711	VV	0.074	1	6.308	$ a,a,a-Trifluorotoluene $
12.213	347589	BV	0.050	1	25.658	(H) c-13pene
[illegible].723	2049385	BV	0.052	1	25.474	Toluene
[illegible].036	338411	VV	0.046	1	25.630	(H) t-13pene
13.557	1032032	VV	0.052	1	25.577	(H) Tetrachloroethene
14.827	1897760	BV	0.048	1	25.402	(H) Chlorobenzene
14.996	1941306	VV	0.050	1	25.455	Ethylbenzene
15.175	4360095	VB	0.050	1	50.905	m-Xylene ; p-Xylene
15.788	3647654	BV	0.053	1	50.916	o-Xylene ; Styrene
16.345	1367353	BV	0.052	1	25.429	Isopropylbenzene
16.804	1606682	BV	0.047	1	25.507	(H) Bromobenzene
16.980	1785714	VV	0.049	1	25.489	n-Propylbenzene
17.110	1855903	VV	0.048	1	25.463	(H) 2Cltoluene
17.263	4394340	VV	0.057	1	50.970	135-Trimethylbenz ; (H) 4Cltol
17.759	1410500	PV	0.051	1	25.430	tert-Butylbenzene
17.833	1952904	VV	0.048	1	25.514	124-Trimethylbenzene
18.102	1505249	VV	0.053	1	25.466	sec-Butylbenzene
18.269	1672244	VV	0.045	1	47.644	p-Isopropyltoluene ; (H) 13dcb
18.405	1556575	VV	0.045	1	25.508	(H) 14dcb
18.976	2501845	VV	0.050	1	51.114	n-Butylbenzene ; (H) 12dcb
21.519	878311	PV	0.046	1	25.563	(H) 124-Triclbenzene
21.812	797787	PV	0.053	1	25.447	(H) Hexaclbutadiene
21.895	639624	VV	0.045	1	25.564	Naphthalene
22.286	674791	BV	0.047	1	25.450	(H) 123Triclbenzene

Calibration table contains at least one peak with amt = 0



Data File Name : C:\HPCHEM\1\DATA\092696\002R0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD025
Run Time Bar Code:
Acquired on : 26 Sep 96 12:56 PM
Report Created on: 26 Sep 96 03:48 PM
Last Recalib on : 26 Sep 96 03:47 PM
Multiplier : 1

Page Number : 1
Vial Number : 2
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD. Amount : 5

Internal Standard Report

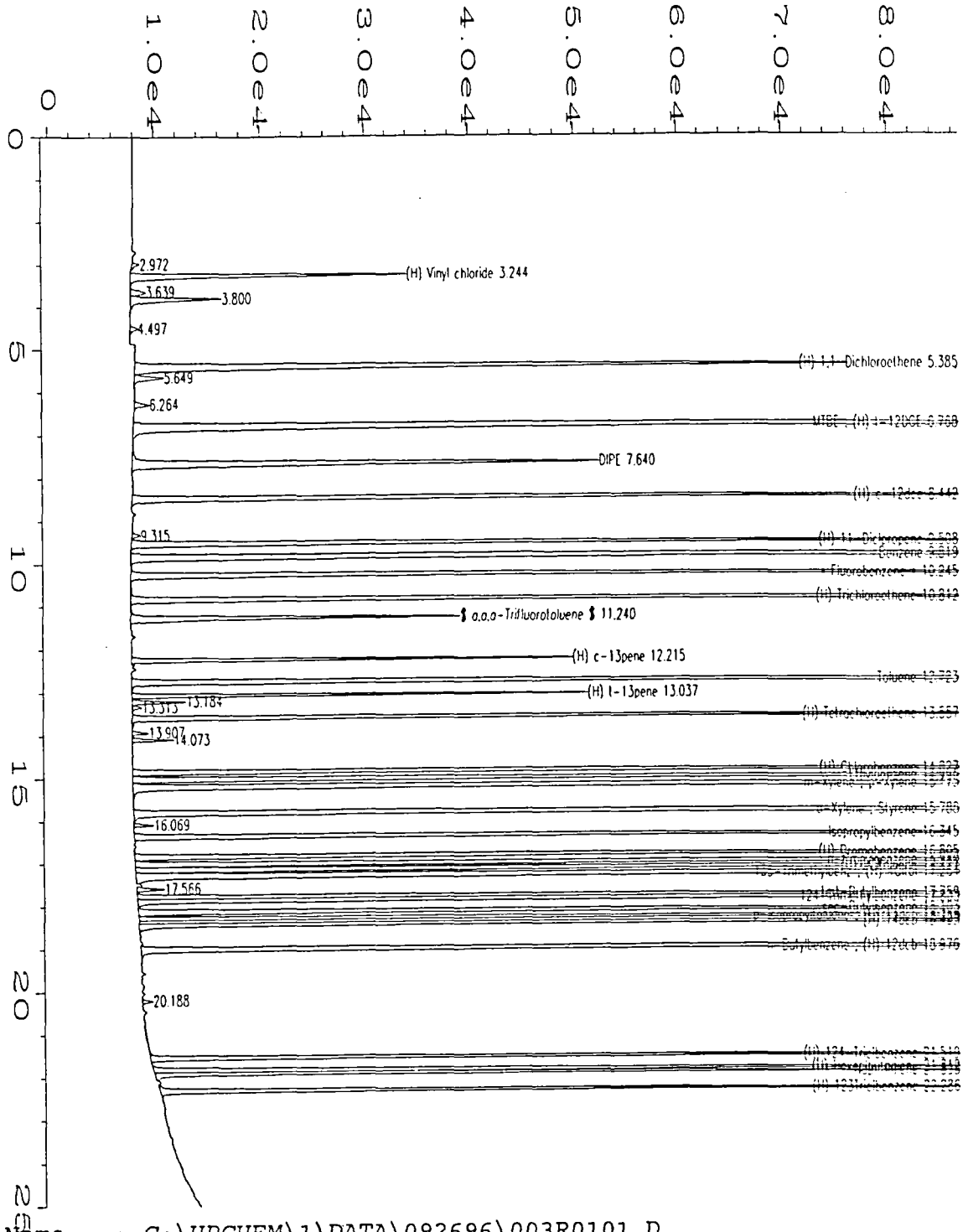
Data File Name : C:\HPCHEM\1\DATA\092696\003R0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD010
Run Time Bar Code:
Acquired on : 26 Sep 96 01:28 PM
Report Created on: 26 Sep 96 03:49 PM
Last Recalib on : 26 Sep 96 03:49 PM
Multiplier : 1

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 2 in C:\HPCHEM\1\DATA\092696\003R0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.244	122282	PV	0.072	1	10.006	(H) Vinyl chloride
5.385	379924	BV	0.086	1	10.368	(H) 1,1-Dichloroethene
6.768	895785	BB	0.073	1	21.231	MTBE ; (H) t-12DCE
7.640	252839	BV	0.089	1	10.888	DIPE
8.442	396814	BV	0.064	1	10.669	(H) c-12dce
9.508	392578	VV	0.063	1	10.201	(H) 11-Diclpropene
9.819	871393	PV	0.062	1	10.433	Benzene
10.245	469826	VV	0.059	1-I	5.000	* Fluorobenzene *
10.812	536354	VV	0.056	1	10.231	(H) Trichloroethene
11.240	138942	PV	0.066	1	5.306	$ a,a,a-Trifluorotoluene $
12.215	134821	BV	0.050	1	10.232	(H) c-13pene
[illegible]723	789157	BV	0.052	1	10.043	Toluene
[illegible]037	127989	VV	0.046	1	10.042	(H) t-13pene
13.557	378129	BV	0.052	1	9.793	(H) Tetrachloroethene
14.827	723480	BV	0.048	1	9.938	(H) Chlorobenzene
14.996	734361	VV	0.049	1	9.921	Ethylbenzene
15.175	1688794	VB	0.050	1	20.123	m-Xylene ; p-Xylene
15.788	1453811	BV	0.053	1	20.544	o-Xylene ; Styrene
16.345	539871	BV	0.052	1	10.196	Isopropylbenzene
16.805	638310	BV	0.046	1	10.293	(H) Bromobenzene
16.980	702991	VV	0.050	1	10.201	n-Propylbenzene
17.111	735853	VV	0.049	1	10.249	(H) 2Cltoluene
17.264	1738871	VV	0.056	1	20.506	135-Trimethylbenz ; (H) 4Cltol
17.759	554571	VV	0.051	1	10.154	tert-Butylbenzene
17.833	769915	VV	0.049	1	10.237	124-Trimethylbenzene
18.103	590744	VV	0.053	1	10.174	sec-Butylbenzene
18.269	659137	VV	0.045	1	18.768	p-Isopropyltoluene ; (H) 13dcb
18.405	615680	VV	0.045	1	10.288	(H) 14dcb
18.976	986196	VV	0.050	1	20.581	n-Butylbenzene ; (H) 12dcb
21.519	361699	BV	0.046	1	10.606	(H) 124-Triclbenzene
21.812	323629	PV	0.053	1	10.422	(H) Hexaclbutadiene
21.895	266413	VV	0.046	1	10.647	Naphthalene
22.286	286034	VB	0.047	1	10.765	(H) 123Triclbenzene

Calibration table contains at least one peak with amt = 0



Data File Name : C:\HPCHEM\1\DATA\092696\003R0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD010
Run Time Bar Code:
Acquired on : 26 Sep 96 01:28 PM
Report Created on: 26 Sep 96 03:49 PM
Last Recalib on : 26 Sep 96 03:49 PM
Multiplier : 1

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Internal Standard Report

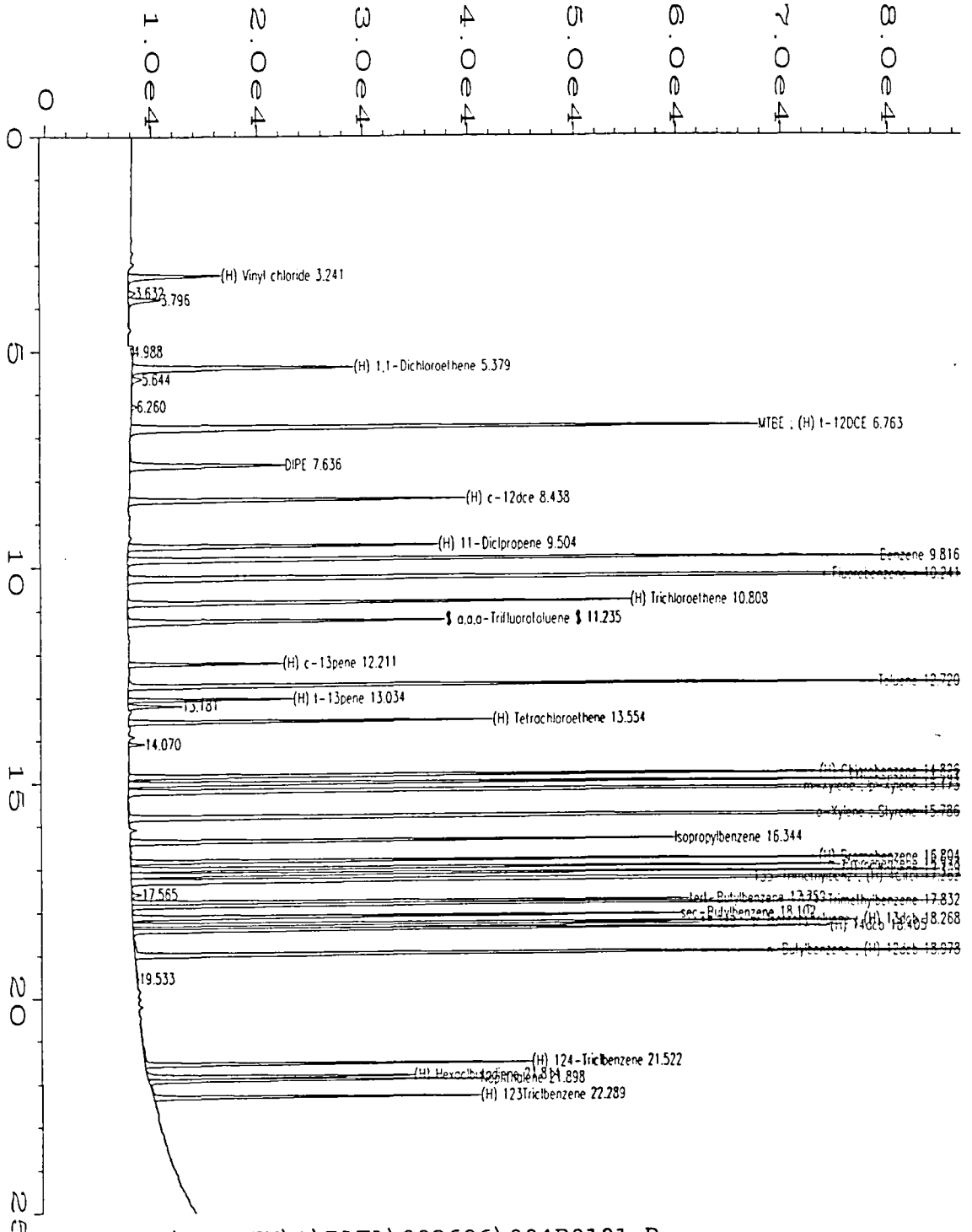
Data File Name : C:\HPCHEM\1\DATA\092696\004R0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD005
Run Time Bar Code:
Acquired on : 26 Sep 96 02:00 PM
Report Created on: 26 Sep 96 03:50 PM
Last Recalib on : 26 Sep 96 03:49 PM
Multiplier : 1

Page Number : 1
Vial Number : 4
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 2 in C:\HPCHEM\1\DATA\092696\004R0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.241	40777	PV	0.072	1	3.958	(H) Vinyl chloride
5.379	116874	BV	0.086	1	3.739	(H) 1,1-Dichloroethene
6.763	283854	BB	0.074	1	7.847	MTBE ; (H) t-12DCE
7.636	84829	BB	0.091	1	4.123	DIPE
8.438	131048	BB	0.064	1	4.053	(H) c-12dce
9.504	117797	VV	0.063	1	3.809	(H) 11-Diclpropene
9.816	291937	PB	0.061	1	4.076	Benzene
10.241	445196	BB	0.059	1-I	5.000	* Fluorobenzene *
10.808	171703	BV	0.056	1	3.942	(H) Trichloroethene
11.235	124023	PB	0.063	1	5.000	$ a,a,a-Trifluorotoluene $
12.211	46537	BV	0.050	1	4.191	(H) c-13pene
12.720	275263	BB	0.052	1	4.113	Toluene
[illegible]034	45826	BV	0.046	1	4.261	(H) t-13pene
[illegible].554	115222	BV	0.052	1	3.811	(H) Tetrachloroethene
14.826	257047	BV	0.048	1	4.146	(H) Chlorobenzene
14.994	248520	VV	0.049	1	4.037	Ethylbenzene
15.173	559075	VV	0.050	1	7.929	m-Xylene ; p-Xylene
15.786	491891	PB	0.053	1	8.084	o-Xylene ; Styrene
16.344	172063	BV	0.052	1	3.884	Isopropylbenzene
16.804	215746	BV	0.047	1	4.068	(H) Bromobenzene
16.978	210972	VV	0.049	1	3.736	n-Propylbenzene
17.109	237414	VV	0.048	1	3.926	(H) 2Cltoluene
17.262	547198	VV	0.056	1	7.748	135-Trimethylbenz ; (H) 4Cltol
17.759	177799	VV	0.051	1	3.886	tert-Butylbenzene
17.832	242768	VV	0.048	1	3.884	124-Trimethylbenzene
18.102	177319	PV	0.053	1	3.747	sec-Butylbenzene
18.268	207285	VV	0.046	1	6.645	p-Isopropyltoluene ; (H) 13dcb
18.405	193140	VV	0.045	1	3.899	(H) 14dcb
18.978	289420	PV	0.051	1	7.508	n-Butylbenzene ; (H) 12dcb
21.522	112551	BV	0.048	1	3.895	(H) 124-Triclbenzene
21.814	88123	PV	0.053	1	3.520	(H) Hexaclbutadiene
21.898	94765	VV	0.046	1	4.230	Naphthalene
22.289	95428	VV	0.048	1	4.062	(H) 123Triclbenzene

Calibration table contains at least one peak with amt = 0



Data File Name	: C:\HPCHEM\1\DATA\092696\004R0101.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 4
Sample Name	: VSTD005	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 26 Sep 96 02:00 PM	Instrument Method	: 502_HAL.MTH
Report Created on	: 26 Sep 96 03:50 PM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 26 Sep 96 03:49 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

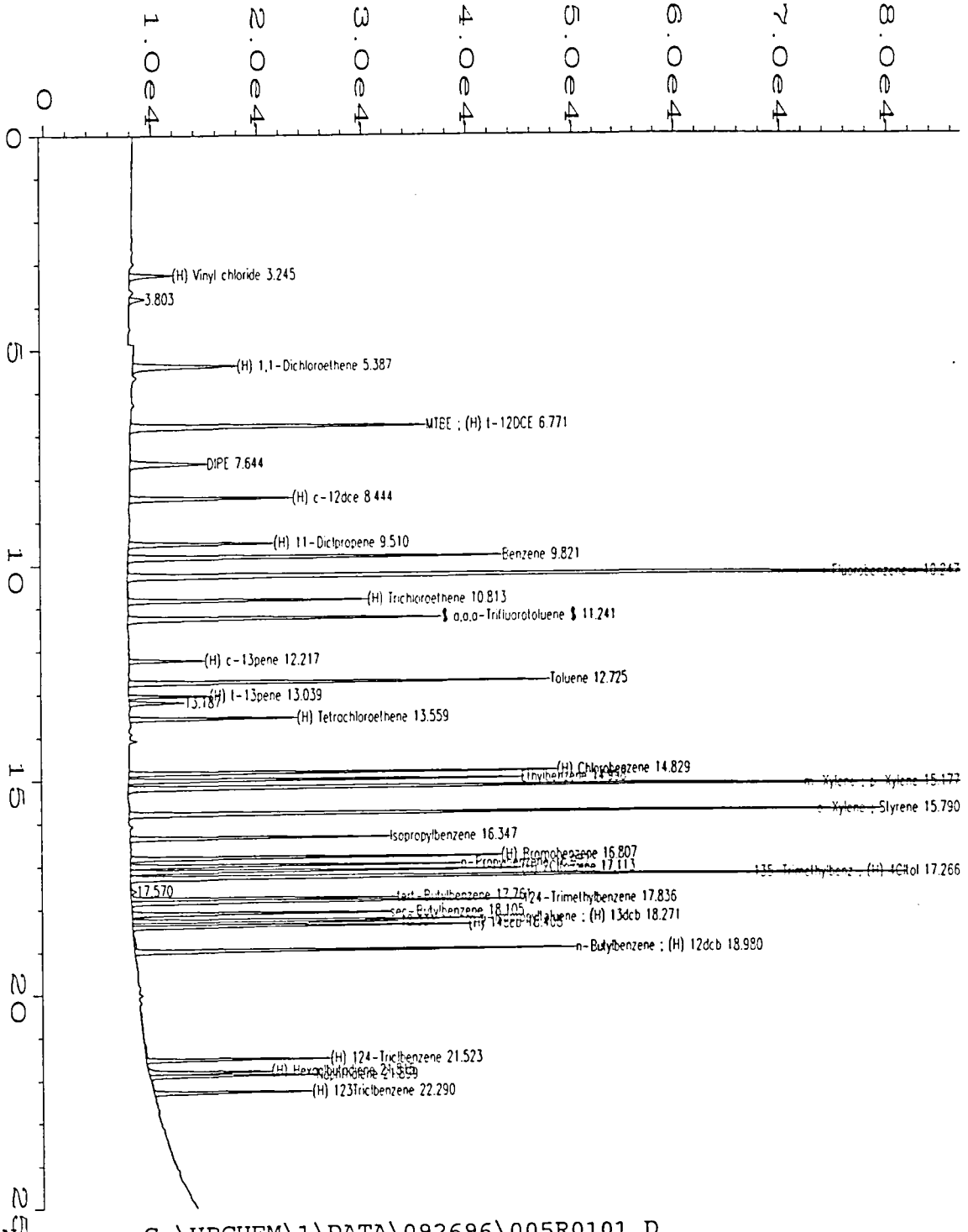
Internal Standard Report

Data File Name	: C:\HPCHEM\1\DATA\092696\005R0101.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 5
Sample Name	: VSTD002	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 26 Sep 96 02:32 PM	Instrument Method	: 502_HAL.MTH
Report Created on	: 26 Sep 96 03:50 PM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 26 Sep 96 03:50 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Sig. 2 in C:\HPCHEM\1\DATA\092696\005R0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.245	19035	PB	0.070	1	2.206	(H) Vinyl chloride
5.387	54770	BV	0.086	1	2.078	(H) 1,1-Dichloroethene
6.771	133390	BV	0.073	1	4.252	MTBE ; (H) t-12DCE
7.644	41467	VB	0.088	1	2.140	DIPE
8.444	62489	BB	0.064	1	2.154	(H) c-12dce
9.510	54635	VB	0.063	1	2.217	(H) 11-Diclpropene
9.821	139519	BB	0.061	1	2.211	Benzene
10.247	448829	BB	0.059	1-I	5.000	* Fluorobenzene *
10.813	82017	BB	0.056	1	2.243	(H) Trichloroethene
11.241	120172	BB	0.062	1	4.806	$ a,a,a-Trifluorotoluene $
12.217	22719	BV	0.050	1	2.325	(H) c-13pene
[illegible]725	132188	BB	0.052	1	2.266	Toluene
[illegible]039	22064	BV	0.046	1	2.352	(H) t-13pene
13.559	51728	BV	0.052	1	2.260	(H) Tetrachloroethene
14.829	123706	BV	0.048	1	2.280	(H) Chlorobenzene
14.998	117905	PV	0.050	1	2.271	Ethylbenzene
15.177	269448	VV	0.050	1	4.463	m-Xylene ; p-Xylene
15.790	239537	BB	0.052	1	4.424	o-Xylene ; Styrene
16.347	81670	BV	0.052	1	2.186	Isopropylbenzene
16.807	104972	BV	0.047	1	2.232	(H) Bromobenzene
16.982	99006	VV	0.049	1	2.150	n-Propylbenzene
17.113	114538	VV	0.048	1	2.203	(H) 2Cltoluene
17.266	263310	VV	0.057	1	4.401	135-Trimethylbenz ; (H) 4Cltol
17.761	85341	VV	0.052	1	2.201	tert-Butylbenzene
17.836	117484	VV	0.048	1	2.214	124-Trimethylbenzene
18.105	83703	VV	0.053	1	2.177	sec-Butylbenzene
18.271	100128	VV	0.046	1	3.969	p-Isopropyltoluene ; (H) 13dcb
18.408	93226	VV	0.045	1	2.219	(H) 14dcb
18.980	137102	PV	0.051	1	4.380	n-Butylbenzene ; (H) 12dcb
21.523	55626	BV	0.049	1	2.161	(H) 124-Triclbenzene
21.815	40721	PV	0.054	1	2.062	(H) Hexaclbutadiene
21.899	47221	VV	0.046	1	2.191	Naphthalene
22.290	45537	VV	0.048	1	2.093	(H) 123Triclbenzene

Calibration table contains at least one peak with amt = 0



Data File Name	: C:\HPCHEM\1\DATA\092696\005R0101.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 5
Sample Name	: VSTD002	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 26 Sep 96 02:32 PM	Instrument Method	: 502_HAL.MTH
Report Created on	: 26 Sep 96 03:50 PM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 26 Sep 96 03:50 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Internal Standard Report

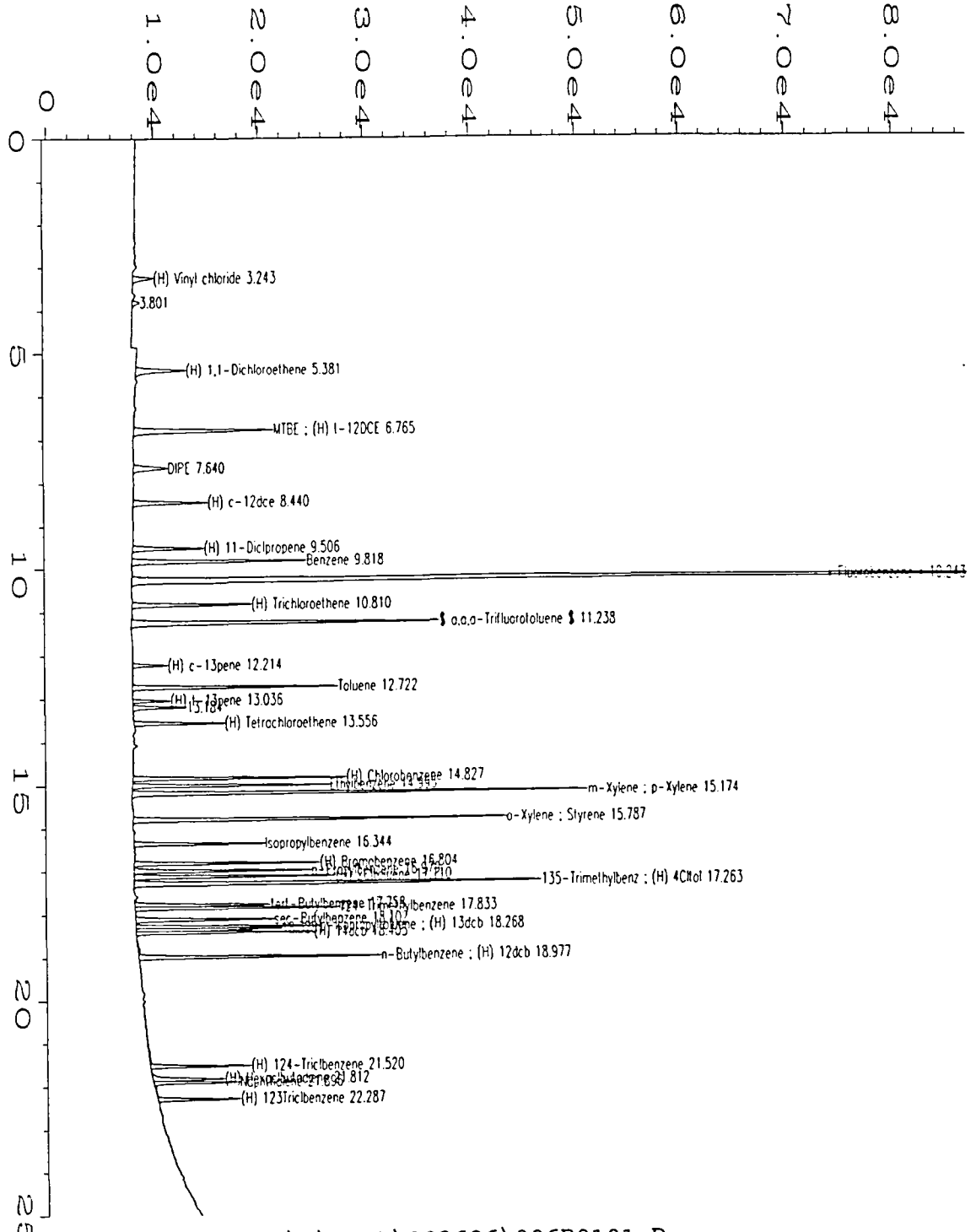
Data File Name : C:\HPCHEM\1\DATA\092696\006R0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD001
Run Time Bar Code:
Acquired on : 26 Sep 96 03:04 PM
Report Created on: 26 Sep 96 03:51 PM
Last Recalib on : 26 Sep 96 03:50 PM
Multiplier : 1

Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 2 in C:\HPCHEM\1\DATA\092696\006R0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.243	9287	BB	0.071	1	1.440	(H) Vinyl chloride
5.381	26774	BV	0.084	1	1.337	(H) 1,1-Dichloroethene
6.765	62594	BV	0.073	1	2.627	MTBE ; (H) t-12DCE
7.640	18833	BB	0.090	1	1.183	DIPE
8.440	28830	BB	0.064	1	1.277	(H) c-12dce
9.506	26989	BB	0.062	1	1.544	(H) 11-Diclpropene
9.818	65044	BB	0.061	1	1.355	Benzene
10.243	435627	BB	0.059	1-I	5.000	* Fluorobenzene *
10.810	40730	BB	0.056	1	1.500	(H) Trichloroethene
11.238	116663	BB	0.062	1	4.807	$ a,a,a-Trifluorotoluene $
12.214	10594	BB	0.050	1	1.459	(H) c-13pene
[illegible]722	64868	BV	0.052	1	1.450	Toluene
[illegible].036	10570	PV	0.046	1	1.508	(H) t-13pene
13.556	28074	BV	0.051	1	1.701	(H) Tetrachloroethene
14.827	61808	BV	0.048	1	1.470	(H) Chlorobenzene
14.995	59781	VV	0.050	1	1.531	Ethylbenzene
15.174	139135	VV	0.050	1	2.985	m-Xylene ; p-Xylene
15.787	119322	BB	0.053	1	2.788	o-Xylene ; Styrene
16.344	41465	BV	0.052	1	1.460	Isopropylbenzene
16.804	52660	BV	0.047	1	1.425	(H) Bromobenzene
16.979	53487	VV	0.050	1	1.526	n-Propylbenzene
17.110	59202	VV	0.048	1	1.467	(H) 2Cltoluene
17.263	138047	VB	0.056	1	2.998	135-Trimethylbenz ; (H) 4Cltol
17.758	43872	VV	0.052	1	1.476	tert-Butylbenzene
17.833	61414	VB	0.049	1	1.508	124-Trimethylbenzene
18.102	44863	BV	0.053	1	1.545	sec-Butylbenzene
18.268	52583	VV	0.046	1	2.551	p-Isopropyltoluene ; (H) 13dcb
18.405	49128	VV	0.045	1	1.523	(H) 14dcb
18.977	76360	PV	0.051	1	3.196	n-Butylbenzene ; (H) 12dcb
21.520	29874	BV	0.048	1	1.440	(H) 124-Triclbenzene
21.812	24619	PV	0.055	1	1.575	(H) Hexaclbutadiene
21.896	25120	VV	0.047	1	1.333	Naphthalene
22.287	24051	VV	0.047	1	1.306	(H) 123Triclbenzene

Calibration table contains at least one peak with amt = 0



Data File Name	: C:\HPCHEM\1\DATA\092696\006R0101.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 6
Sample Name	: VSTD001	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 26 Sep 96 03:04 PM	Instrument Method:	502_HAL.MTH
Report Created on:	26 Sep 96 03:51 PM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 26 Sep 96 03:50 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Method: **6230D**

ICal Date: 092696
CCal Date 092696

	Curve	QCCK	%D
Benzene	1.290	1.097	16.1
Bromobenzene	0.497	0.432	14.0
Bromochloromethane	0.805	0.758	6.1
Bromodichloromethane	1.287	1.186	8.1
Bromoform	0.252	0.182	32.1
Bromomethane	0.328	0.243	29.8
n-Butylbenzene	1.411	1.110	23.8
sec-Butylbenzene	0.848	0.653	25.9
tert-Butylbenzene	0.823	0.649	23.7
Carbon tetrachloride	3.945	3.412	14.5
Chlorobenzene	0.756	0.678	10.9
Chloroethane	0.497	0.415	17.9
Chloroform	2.529	2.249	11.7
Chloromethane	0.571	0.476	18.0
2-Chlorotoluene	0.621	0.682	-4.6
4-Chlorotoluene	0.822	0.695	16.7
Dibromochloromethane	0.572	0.525	8.5
1,2-Dibromo-3-chloropropane	0.087	0.059	38.3
1,2-Dibromoethane (EDB)	0.413	0.371	10.5
Dibromomethane	0.493	0.430	13.5
1,2-Dichlorobenzene	0.864	0.773	11.0
1,3-Dichlorobenzene	1.014	0.882	13.9
1,4-Dichlorobenzene	1.144	1.000	13.4
Dichlorodifluoromethane	0.511	0.248	69.2
1,1-Dichloroethane	2.037	1.823	11.1
1,2-Dichloroethane	1.113	1.033	7.4
1,1-Dichloroethene	1.875	1.538	19.8
cis-1,2-Dichloroethene	3.302	2.928	12.0
trans-1,2-Dichloroethene	1.993	1.730	14.1
1,2-Dichloropropane	1.460	1.376	6.0
2,2-Dichloropropane	3.945	3.412	14.5
cis-1,3-Dichloropropane	1.109	1.014	8.9
trans-1,3-Dichloropropane	0.685	0.631	8.2
Diisopropyl ether	0.371	0.324	13.4
Ethylbenzene	1.124	0.923	19.6
Hexachlorobutadiene	1.716	1.297	27.8
Isopropylbenzene	0.792	0.637	21.7
p-Isopropyltoluene	0.974	1.616	-49.6
Methyl-tert butyl ether	1.272	1.058	18.3
Methylene Chloride	1.968	1.776	10.3
Naphthalene	0.423	0.353	17.9
n-Propylbenzene	1.008	0.791	24.2
Styrene	2.212	1.871	16.7
1,1,1,2-Tertrachloroethane	1.929	1.713	11.8
1,1,2,2-Tertrachloroethane	0.805	0.723	10.7

Tetrachloroethene	2.859	2.517	12.7
Toluene	1.220	1.019	18.0
1,2,3-Trichlorobenzene	0.937	0.774	19.1
1,2,4-Trichlorobenzene	1.050	0.871	18.6
1,1,1-Trichloroethane	2.465	2.079	17.0
1,1,2-Trichloroethane	1.185	1.026	14.3
Trichloroethene	2.196	1.929	12.9
Trichloroflurometh ane	1.022	0.735	32.7
1,2,3-Trichloropropane	0.497	0.432	14.0
1,2,4-Trimethylbenzene	1.138	0.918	21.4
1,3,5-Trimethylbenzene	2.562	2.062	21.6
Vinyl Chloride	0.933	0.746	22.3
m/p-Xylene	2.564	2.094	20.2
o-Xylene	2.212	1.871	16.7

Internal Standard Report

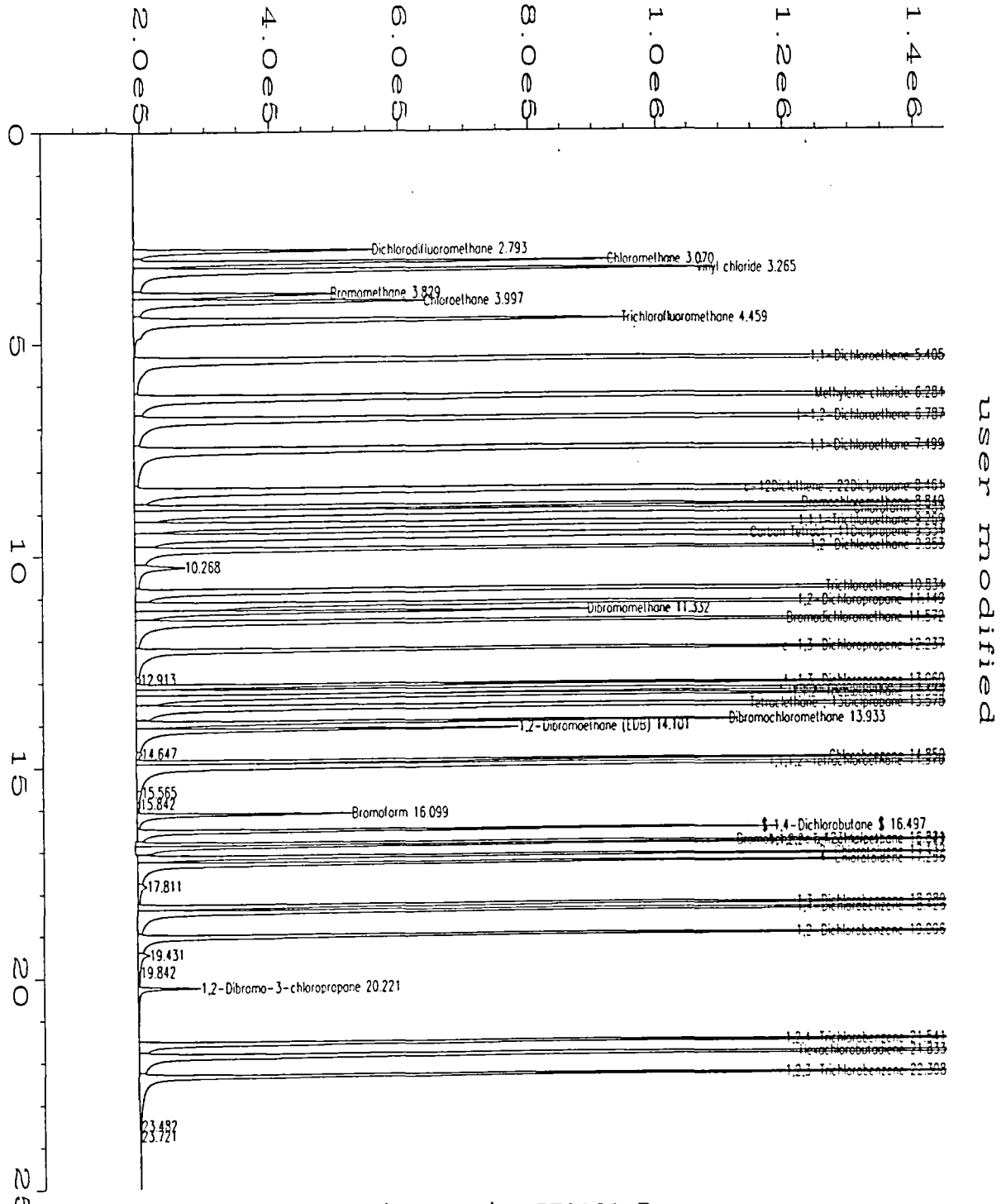
Data File Name : C:\HPCHEM\1\DATA\092696\007F0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : QCCK005
Run Time Bar Code:
Acquired on : 26 Sep 96 03:36 PM
Report Created on: 26 Sep 96 04:04 PM
Last Recalib on : 26 SEP 96 03:46 PM
Multiplier : 1

Page Number : 1
Vial Number : 7
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 1 in C:\HPCHEM\1\DATA\092696\007F0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.793	1713104	VV	0.070	1	3.350	Dichlorodifluoromethane
3.070	3287428	VV	0.067	1	3.983	Chloromethane
3.265	5145258	VV	0.086	1	3.905	Vinyl chloride
3.829	1679613	VV	0.084	1	3.960	Bromomethane
3.997	2863926	VV	0.093	1	3.994	Chloroethane
4.459	5071856	VV	0.100	1	3.456	Trichlorofluoromethane
5.405	1.06111E+007	VV	0.088	1	3.848	1,1-Dichloroethene
6.284	1.22572E+007	VV	0.079	1	4.410	Methylene chloride
6.787	1.19412E+007	VV	0.077	1	4.113	t-1,2-Dichloroethene
7.499	1.25831E+007	VV	0.080	1	4.256	1,1-Dichloroethane
8.461	2.02102E+007	VV	0.077	1	8.338	c-12Diclethene ; 22Diclpropane
8.840	5231531	VV	0.065	1	4.361	Bromochloromethane
[illegible].981	1.55217E+007	VV	0.071	1	4.347	Chloroform
[illegible].269	1.43465E+007	VV	0.081	1	4.028	1,1,1-Trichloroethane
9.534	2.35454E+007	VV	0.076	1	7.995	Carbon Tetracl ; 11Diclpropene
9.853	7131897	VV	0.066	1	4.459	1,2-Dichloroethane
10.834	1.3311E+007	VV	0.061	1	4.192	Trichloroethene
11.149	9496013	VV	0.065	1	4.498	1,2-Dichloropropane
11.332	2971044	VV	0.063	1	4.329	Dibromomethane
11.572	8187279	VV	0.063	1	4.407	Bromodichloromethane
12.237	7001397	VV	0.056	1	4.392	c-1,3-Dichloropropene
13.060	4352692	VV	0.049	1	4.375	t-1,3-Dichloropropene
13.207	1.10423E+007	VV	0.061	1-I	5.000	* Bromochloropropane *
13.330	7082374	VV	0.059	1	4.608	1,1,2-Trichloroethane
13.578	1.73737E+007	VV	0.057	1	8.637	Tetraclethane ; 13Diclpropane
13.933	3626137	VV	0.059	1	4.419	Dibromochloromethane
14.101	2562374	VV	0.063	1	4.474	1,2-Dibromoethane (EDB)
14.850	4678657	VV	0.050	1	4.300	Chlorobenzene
14.970	1.18234E+007	VV	0.061	1	4.485	1,1,1,2-Tetrachloroethane
16.099	1256242	VV	0.056	1	4.061	Bromoform
16.497	3415392	VF	0.054	1	4.931	$ 1,4-Dichlorobutane $
16.821	4992250	MF	0.057	1	8.513	Bromobenzene ; 123triclpropane
16.849	2979525	FM	0.043	1	4.383	1,1,2,2-Tetrachloroethane
17.132	4705901	FV	0.053	1	4.081	2-Chlorotoluene
17.296	4799674	VV	0.053	1	4.110	4-Chlorotoluene
18.289	6086465	VV	0.049	1	4.132	1,3-Dichlorobenzene
18.426	6902848	VV	0.051	1	4.248	1,4-Dichlorobenzene
19.006	5336746	VV	0.051	1	4.293	1,2-Dichlorobenzene
[illegible].221	407431	VV	0.061	1	4.008	1,2-Dibromo-3-chloropropane
[illegible]541	6008145	PV	0.049	1	3.919	1,2,4-Trichlorobenzene
21.833	8949762	VV	0.059	1	3.590	Hexachlorobutadiene
22.308	5338539	VV	0.053	1	3.923	1,2,3-Trichlorobenzene

Calibration table contains at least one peak with amt = 0



Data File Name	: C:\HPCHEM\1\DATA\092696\007F0101.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 7
Sample Name	: QCCK005	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 1
Acquired on	: 26 Sep 96 03:36 PM	Instrument Method:	502_HAL.MTH
Report Created on:	26 Sep 96 04:04 PM	Analysis Method	: 502_HAL.MTH
Last Recalib on	: 26 SEP 96 03:46 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Internal Standard Report

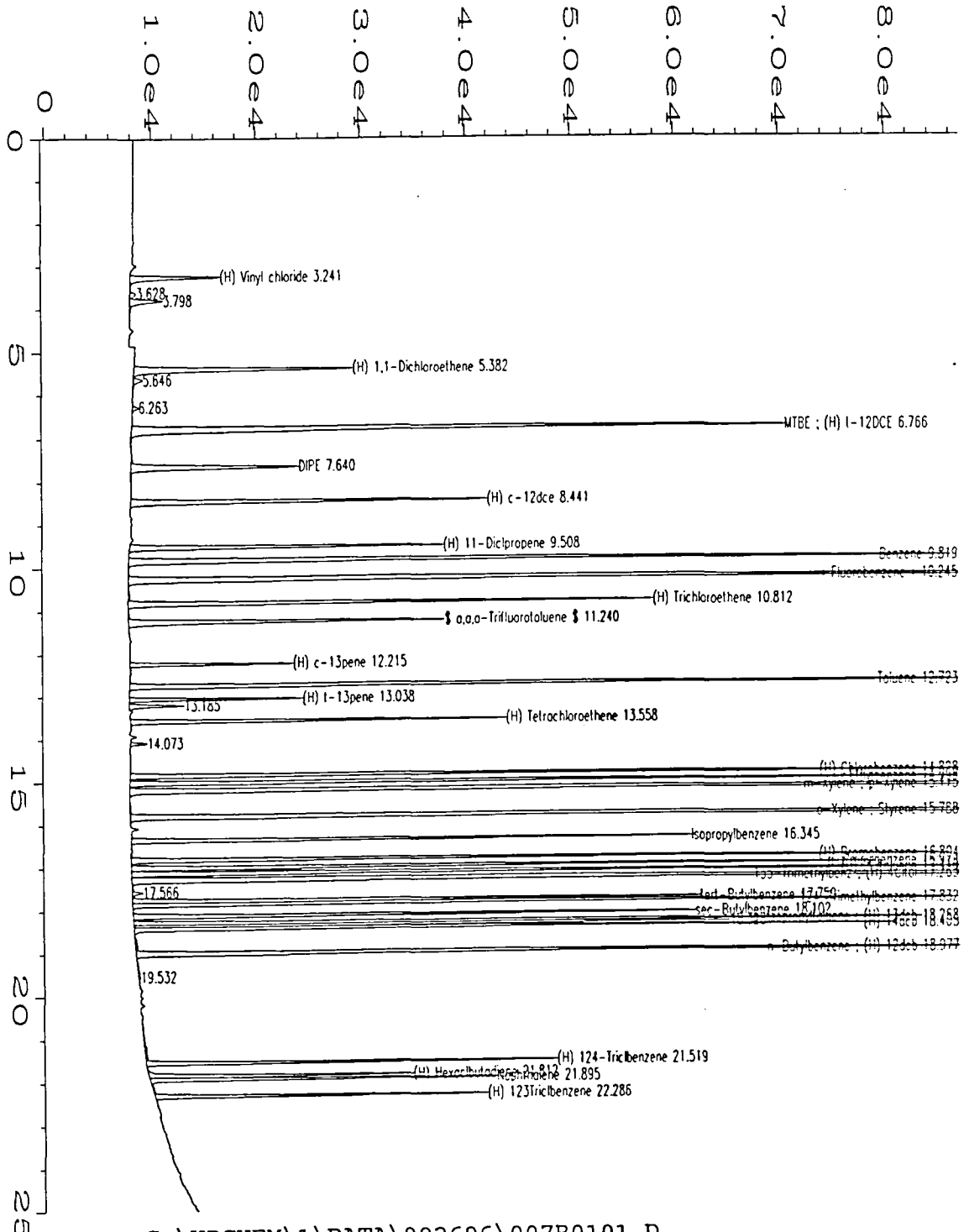
Data File Name : C:\HPCHEM\1\DATA\092696\007R0101.D
Operator : RNP
Instrument : HALL/PID
Sample Name : QCCK005
Run Time Bar Code:
Acquired on : 26 Sep 96 03:36 PM
Report Created on: 26 Sep 96 04:02 PM
Last Recalib on : 26 SEP 96 03:51 PM
Multiplier : 1

Page Number : 1
Vial Number : 7
Injection Number : 1
Sequence Line : 1
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 2 in C:\HPCHEM\1\DATA\092696\007R0101.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.241	40064	PV	0.072	1	3.952	(H) Vinyl chloride
5.382	116372	BV	0.086	1	3.849	(H) 1,1-Dichloroethene
6.766	296222	BV	0.073	1	8.139	MTBE ; (H) t-12DCE
7.640	90800	BV	0.089	1	4.277	DIPE
8.441	139196	BB	0.064	1	4.215	(H) c-12dce
9.508	119479	VV	0.063	1	3.870	(H) 11-Diclpropene
9.819	307087	PV	0.061	1	4.196	Benzene
10.245	447932	PV	0.059	1-I	5.000	* Fluorobenzene *
10.812	181154	VB	0.056	1	4.093	(H) Trichloroethene
11.240	124506	BV	0.064	1	4.711	$ a,a,a-Trifluorotoluene $
12.215	49546	BV	0.050	1	4.276	(H) c-13pene
[illegible].723	285361	BB	0.052	1	4.198	Toluene
[illegible]038	48477	BV	0.046	1	4.323	(H) t-13pene
13.558	118467	BV	0.052	1	3.935	(H) Tetrachloroethene
14.828	270123	BV	0.047	1	4.276	(H) Chlorobenzene
14.996	258535	VV	0.049	1	4.146	Ethylbenzene
15.175	586241	VB	0.050	1	8.241	m-Xylene ; p-Xylene
15.788	523704	BB	0.053	1	8.458	o-Xylene ; Styrene
16.345	178353	BV	0.052	1	4.026	Isopropylbenzene
16.804	231845	BV	0.047	1	4.259	(H) Bromobenzene
16.979	221334	VV	0.049	1	3.947	n-Propylbenzene
17.110	250946	VV	0.048	1	4.101	(H) 2Cltoluene
17.263	577234	VV	0.056	1	8.088	135-Trimethylbenz ; (H) 4Cltol
17.759	181565	VV	0.051	1	3.977	tert-Butylbenzene
17.832	256986	VV	0.048	1	4.056	124-Trimethylbenzene
18.102	182934	PV	0.053	1	3.893	sec-Butylbenzene
18.268	226176	VV	0.046	1	8.308	p-Isopropyltoluene ; (H) 13dcb
18.405	211279	VV	0.045	1	4.158	(H) 14dcb
18.977	310765	PV	0.050	1	7.934	n-Butylbenzene ; (H) 12dcb
21.519	119053	BV	0.047	1	4.013	(H) 124-Triclbenzene
21.812	86907	PV	0.053	1	3.587	(H) Hexaclbutadiene
21.895	98852	VV	0.046	1	4.240	Naphthalene
22.286	95473	VV	0.047	1	3.986	(H) 123Triclbenzene

Calibration table contains at least one peak with amt = 0



Data File Name	: C:\HPCHEM\1\DATA\092696\007R0101.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 7
Sample Name	: QCCK005	Injection Number	: 1
Real Time Bar Code:		Sequence Line	: 1
Acquired on	: 26 Sep 96 03:36 PM	Instrument Method	: 502_HAL.MTH
Report Created on	: 26 Sep 96 04:02 PM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 26 SEP 96 03:51 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Response Factor Report

Method: 6230D Water **Batch:** 100396

H1: 048F0201.D P1: 048R0201.D
H2: 047F0201.D P2: 047R0201.D
H3: 046F0201.D P3: 046R0201.D
H4: 045F0201.D P4: 045R0201.D
H5: 044F0201.D P5: 044R0201.D

Compound	1	2	3	4	5	Avg.	%RSD
Benzene	1.284	1.242	1.183	1.343	1.273	1.265	4.66
Bromobenzene	0.594	0.665	0.609	0.669	0.613	0.630	5.48
Bromochloromethane	0.799	0.851	0.835	0.912	0.801	0.840	5.50
Bromodichloromethane	1.329	1.35	1.29	1.399	1.21	1.316	5.39
Bromoform	0.145	0.196	0.233	0.278	0.278	0.226	25.13
Bromomethane	0.181	0.184	0.218	0.269	0.217	0.214	16.63
n-Butylbenzene	1.621	1.516	1.333	1.568	1.471	1.502	7.32
sec-Butylbenzene	0.948	0.89	0.807	0.946	0.887	0.896	6.41
tert-Butylbenzene	0.886	0.831	0.76	0.883	0.833	0.838	6.09
Carbon tetrachloride	5.567	5.075	4.539	4.589	2.585	4.471	25.36
Chlorobenzene	0.788	0.824	0.784	0.824	0.738	0.792	4.49
Chloroethane	0.392	0.349	0.345	0.401	0.329	0.363	8.67
Chloroform	3.431	3.097	2.646	2.686	2.003	2.773	19.38
Chloromethane	0.332	0.357	0.379	0.452	0.376	0.379	11.90
2-Chlorotoluene	0.470	0.357	0.379	0.452	0.376	0.407	12.46
4-Chlorotoluene	1.007	0.963	0.869	0.908	0.786	0.907	9.44
Dibromochloromethane	0.543	0.582	0.571	0.609	0.569	0.575	4.14
1,2-Dibromo-3-chloropropane	0.045	0.061	0.071	0.098	0.101	0.075	32.37
1,2-Dibromoethane (EDB)	0.384	0.406	0.402	0.424	0.393	0.402	3.82
Dibromomethane	0.453	0.488	0.484	0.536	0.478	0.488	6.20
1,2-Dichlorobenzene	1.009	0.999	0.897	0.957	0.835	0.939	7.78
1,3-Dichlorobenzene	1.150	1.151	1.069	1.14	0.981	1.098	6.71
1,4-Dichlorobenzene	1.368	1.326	1.155	1.198	1.012	1.212	11.73
Dichlorodifluoromethane	0.727	0.478	0.507	0.682	0.616	0.602	17.92
1,1-Dichloroethane	2.547	2.411	2.212	2.377	1.898	2.289	10.88
1,2-Dichloroethane	1.243	1.217	1.127	1.175	0.985	1.149	8.88
1,1-Dichloroethene	2.366	2.256	2.127	2.352	1.946	2.209	7.94
cis-1,2-Dichloroethene	3.516	3.401	3.132	3.313	2.294	3.131	15.61
trans-1,2-Dichloroethene	2.567	2.437	2.236	2.441	1.96	2.328	10.21
1,2-Dichloropropane	1.699	1.654	1.49	1.558	1.312	1.543	9.91
2,2-Dichloropropane	5.567	5.075	4.539	4.589	2.585	4.471	25.36
cis-1,3-Dichloropropane	1.076	1.099	1.048	1.139	0.945	1.062	6.89
trans-1,3-Dichloropropane	0.589	0.647	0.644	0.722	0.637	0.648	7.37
Diisopropyl ether	0.343	0.331	0.316	0.349	0.329	0.333	3.86
Ethylbenzene	1.163	1.114	1.04	1.198	1.13	1.129	5.25
Hexachlorobutadiene	2.557	2.483	2.113	2.233	1.603	2.198	17.21
Isopropylbenzene	0.849	0.801	0.738	0.852	0.805	0.809	5.72
p-Isopropyltoluene	0.958	0.924	0.843	0.962	0.914	0.920	5.19
Methyl-tert butyl ether	1.317	1.263	1.227	1.417	1.33	1.311	5.51
Methylene Chloride		2.395	1.949	2.004	1.638	1.997	15.55
Naphthalene	0.366	0.349	0.292	0.339	0.308	0.331	9.16
n-Propylbenzene	1.130	1.05	0.957	1.112	1.048	1.059	6.41

Response Factor Report

Method: **6230D Water** **Batch:** 100396

H1: 048F0201.D P1: 048R0201.D
H2: 047F0201.D P2: 047R0201.D
H3: 046F0201.D P3: 046R0201.D
H4: 045F0201.D P4: 045R0201.D
H5: 044F0201.D P5: 044R0201.D

Compound	1	2	3	4	5	Avg.	%RSD
Styrene	2.258	2.158	1.959	2.222	2.095	2.138	**5.52**
1,1,1,2-Tertrachloroethane	2.125	2.086	1.867	1.878	1.538	1.899	**12.29**
1,1,2,2-Tertrachloroethane	0.770	0.723	0.668	0.668	0.598	0.685	**9.45**
Tetrachloroethene	3.972	3.598	3.1	3.173	1.877	3.144	**25.14**
Toluene	1.242	1.196	1.12	1.274	1.195	1.205	**4.83**
1,2,3-Trichlorobenzene	0.981	1.076	0.898	0.965	0.788	0.942	**11.32**
1,2,4-Trichlorobenzene	1.145	1.161	1.008	1.121	0.901	1.067	**10.34**
1,1,1-Trichloroethane	3.069	2.896	2.604	2.789	2.165	2.705	**12.77**
1,1,2-Trichloroethane	1.568	1.292	1.039	1.016	0.823	1.147	**25.13**
Trichloroethene	2.617	2.597	2.39	2.479	1.783	2.373	**14.44**
Trichloroflurometh ane	1.083	0.951	0.91	1.043	0.884	0.974	**8.80**
1,2,3-Trichloropropane	0.594	0.665	0.609	0.669	0.613	0.630	**5.48**
1,2,4-Trimethylbenzene	1.236	1.186	1.068	1.232	1.16	1.176	**5.82**
1,3,5-Trimethylbenzene	2.777	2.634	2.393	2.752	2.582	2.628	**5.87**
Vinyl Chloride	0.910	0.853	0.786	0.89	0.738	0.835	**8.64**
m/p-Xylene	2.699	2.567	2.34	2.68	2.526	2.562	**5.62**
o-Xylene	2.258	2.158	1.959	2.222	2.095	2.138	**5.52**

Calibration Report

Data File Name : C:\HPCHEM\1\DATA\100396\048R0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD001
Run Time Bar Code:
Acquired on : 04 Oct 96 08:24 AM
Report Created on: 04 Oct 96 09:42 AM
Last Recalib on : 04 Oct 96 09:41 AM
Multiplier : 1

Page Number : 1
Vial Number : 48
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Calibration Table

Pk#	RT	Lvl	µg/L	Amt/Area	Ref	Istd	I#	Name
1	3.365	1	1.0	6.4137e-005			1	(H) Vinyl chloride
		2	2.0	7.1476e-005				
		3	5.0	7.3709e-005				
		4	10.0	6.2651e-005				
		5	25.0	6.4783e-005				
2	5.501	1	1.0	2.3295e-005			1	(H) 1,1-Dichloroethe...
		2	2.0	2.5809e-005				
		3	5.0	2.605e-005				
		4	10.0	2.2174e-005				
		5	25.0	2.3225e-005				
3	6.862	1	2.0	2.1237e-005			1	MTBE ; (H) t-12DCE
		2	4.0	2.2539e-005				
		3	10.0	2.2483e-005				
		4	20.0	1.9394e-005				
		5	50.0	2.012e-005				
4	7.718	1	1.0	4.0822e-005			1	DIPE
		2	2.0	4.2999e-005				
		3	5.0	4.3714e-005				
		4	10.0	3.9377e-005				
		5	25.0	4.0641e-005				
5	8.514	1	1.0	2.4275e-005			1	(H) c-12dce
		2	2.0	2.5813e-005				
		3	5.0	2.5968e-005				
		4	10.0	2.2612e-005				
		5	25.0	2.3451e-005				
6	9.569	1	1.0	2.4109e-005			1	(H) 11-Diclpropene
		2	2.0	2.6005e-005				
		3	5.0	2.5964e-005				
		4	10.0	2.1887e-005				
		5	25.0	2.271e-005				
7	9.877	1	1.0	1.0892e-005			1	Benzene
		2	2.0	1.1459e-005				
		3	5.0	1.1668e-005				
		4	10.0	1.0227e-005				
		5	25.0	1.0516e-005				
8	10.297	1	5.0	8.7407e-006		ISTD	1	* Fluorobenzene *
		2	5.0	8.8951e-006				
		3	5.0	8.6235e-006				
		4	5.0	8.5857e-006				
		5	5.0	8.3655e-006				
		6	5.0	8.6235e-006				
9	10.859	1	1.0	1.7922e-005			1	(H) Trichloroethene
		2	2.0	1.9067e-005				
		3	5.0	1.9203e-005				

		2	2.0	1.3162e-005	
		3	5.0	1.3955e-005	
		4	10.0	1.2125e-005	
		5	25.0	1.2524e-005	
23	17.281	1	2.0	1.0072e-005	1 135-Trimethylbenz ; ...
		2	4.0	1.0807e-005	
		3	10.0	1.1532e-005	
		4	20.0	9.9819e-006	
		5	50.0	1.0367e-005	
24	17.776	1	1.0	1.5789e-005	1 tert-Butylbenzene
		2	2.0	1.7128e-005	
		3	5.0	1.8155e-005	
		4	10.0	1.5564e-005	
		5	25.0	1.6068e-005	
25	17.850	1	1.0	1.1317e-005	1 124-Trimethylbenzene
		2	2.0	1.2002e-005	
		3	5.0	1.2919e-005	
		4	10.0	1.1147e-005	
		5	25.0	1.1534e-005	
26	18.120	1	1.0	1.4745e-005	1 sec-Butylbenzene
		2	2.0	1.5985e-005	
		3	5.0	1.7088e-005	
		4	10.0	1.4522e-005	
		5	25.0	1.5091e-005	
27	18.286	1	2.0	2.9198e-005	1 p-Isopropyltoluene ;...
		2	4.0	3.0819e-005	
		3	10.0	3.2722e-005	
		4	20.0	2.856e-005	
		5	50.0	2.9289e-005	
28	18.422	1	1.0	1.5573e-005	1 (H) 14dcb
		2	2.0	1.6446e-005	
		3	5.0	1.752e-005	
		4	10.0	1.5267e-005	
		5	25.0	1.5633e-005	
29	18.993	1	2.0	1.7253e-005	1 n-Butylbenzene ; (H)...
		2	4.0	1.8774e-005	
		3	10.0	2.0708e-005	
		4	20.0	1.7525e-005	
		5	50.0	1.8195e-005	
30	21.535	1	1.0	2.622e-005	1 (H) 124-Triclbenzene
		2	2.0	2.8634e-005	
		3	5.0	3.3739e-005	
		4	10.0	2.881e-005	
		5	25.0	3.107e-005	
31	21.826	1	1.0	2.4483e-005	1 (H) Hexaclbutadiene
		2	2.0	2.7446e-005	
		3	5.0	3.0763e-005	
		4	10.0	2.6247e-005	
		5	25.0	2.9573e-005	
32	21.910	1	1.0	3.8234e-005	1 Naphthalene
		2	2.0	4.0787e-005	
		3	5.0	4.7287e-005	
		4	10.0	4.0556e-005	
		5	25.0	4.3502e-005	
33	22.301	1	1.0	3.3696e-005	1 (H) 123Triclbenzene
		2	2.0	3.5098e-005	
		3	5.0	3.9776e-005	
		4	10.0	3.4379e-005	

5 25.0 3.7038e-005

Method: C:\HPCHEM\1\METHODS\502_PID.MTH

Calibration Settings

Title:
8021 HALL 5mL

Reference window:	5.000 %
Non-reference window:	5.000 %
Units of amount:	µg/L
Multiplier:	1.0
RF uncal peaks:	0.0
ISTD# to adjust uncal peaks:	0
Sample Amount:	0.0

Sample ISTD Information

I#	Amount
1	5.0

Multilevel Information

Fit: Linear
Origin: Force

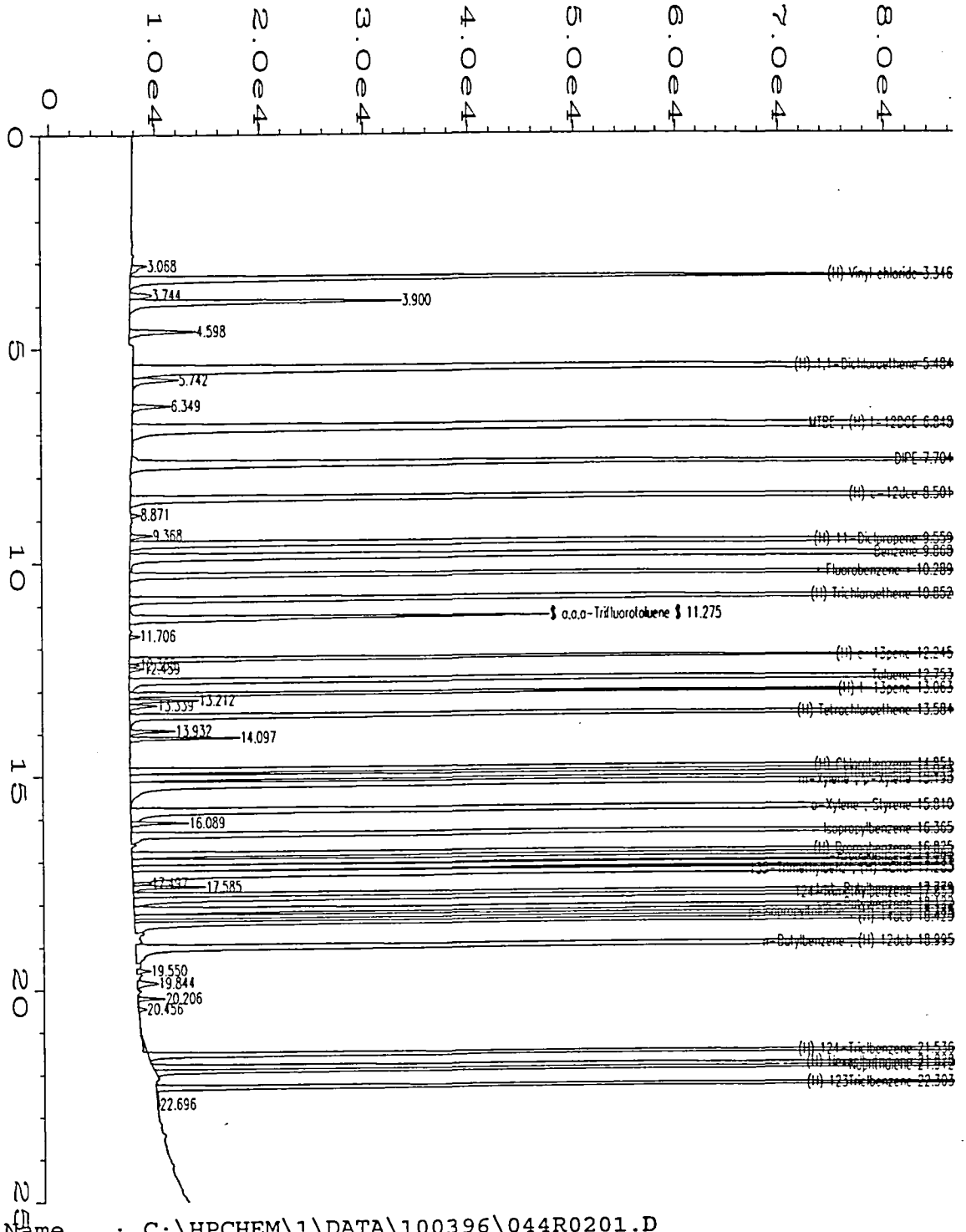
==========

Internal Standard Report

Data File Name	: C:\HPCHEM\1\DATA\100396\044R0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 44
Sample Name	: VSTD025	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 06:16 AM	Instrument Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:36 AM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 04 Oct 96 09:35 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Sig. 2 in C:\HPCHEM\1\DATA\100396\044R0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.346	385901	PV	0.071	1	24.997	(H) Vinyl chloride
5.484	1076432	BV	0.086	1	24.710	(H) 1,1-Dichloroethene
6.848	2485055	BB	0.073	1	49.296	MTBE ; (H) t-12DCE
7.704	615145	BV	0.088	1	24.253	DIPE
8.501	1066061	BV	0.064	1	24.558	(H) c-12dce
9.559	1100834	VV	0.063	1	24.678	(H) 11-Diclpropene
9.868	2377344	PV	0.061	1	24.606	Benzene
10.289	597691	VB	0.059	1-I	5.000	* Fluorobenzene *
10.852	1479701	BV	0.056	1	24.643	(H) Trichloroethene
11.275	198385	VV	0.072	1	5.957	$ a,a,a-Trifluorotoluene $
12.245	340309	BV	0.050	1	24.376	(H) c-13pene
[illegible].753	2231073	BV	0.052	1	24.717	Toluene
[illegible].063	322366	VV	0.046	1	24.369	(H) t-13pene
13.584	1089513	VV	0.053	1	24.757	(H) Tetrachloroethene
14.851	1939167	BV	0.048	1	24.566	(H) Chlorobenzene
15.019	2111118	VV	0.050	1	24.762	Ethylbenzene
15.198	4717337	VV	0.051	1	49.373	m-Xylene ; p-Xylene
15.810	3912623	VV	0.053	1	49.157	o-Xylene ; Styrene
16.365	1503011	VV	0.052	1	24.669	Isopropylbenzene
16.825	1730586	BV	0.047	1	24.601	(H) Bromobenzene
17.000	1956512	VV	0.050	1	24.669	n-Propylbenzene
17.131	1996102	VV	0.048	1	24.601	(H) 2Cltoluene
17.283	4823105	VV	0.058	1	49.329	135-Trimethylbenz ; (H) 4Cltol
17.779	1555904	VV	0.051	1	24.695	tert-Butylbenzene
17.853	2167428	VV	0.049	1	24.708	124-Trimethylbenzene
18.122	1656658	VV	0.054	1	24.691	sec-Butylbenzene
18.289	1707117	VV	0.045	1	48.927	p-Isopropyltoluene ; (H) 13dcb
18.425	1599152	VV	0.045	1	24.472	(H) 14dcb
18.995	2748068	VV	0.051	1	49.353	n-Butylbenzene ; (H) 12dcb
21.536	804624	BV	0.046	1	23.965	(H) 124-Triclbenzene
21.828	845354	PV	0.053	1	24.488	(H) Hexaclbutadiene
21.912	574691	VV	0.045	1	23.853	Naphthalene
22.303	674984	BV	0.046	1	24.162	(H) 123Triclbenzene



Data File Name	: C:\HPCHEM\1\DATA\100396\044R0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 44
Sample Name	: VSTD025	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 06:16 AM	Instrument Method:	502_HAL.MTH
Report Created on:	04 Oct 96 09:36 AM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 04 Oct 96 09:35 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

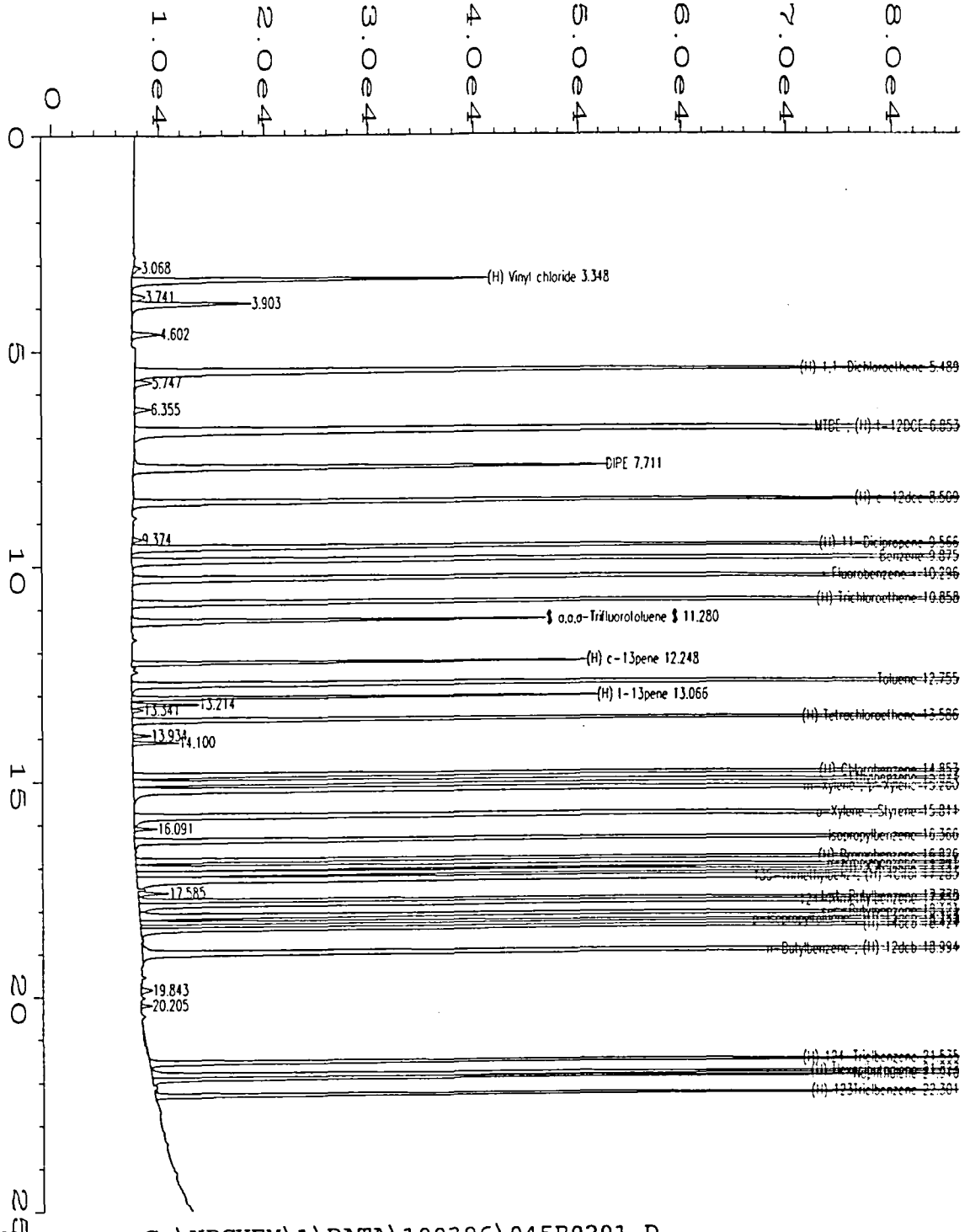
Internal Standard Report

Data File Name : C:\HPCHEM\1\DATA\100396\045R0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD010
Run Time Bar Code:
Acquired on : 04 Oct 96 06:48 AM
Report Created on: 04 Oct 96 09:40 AM
Last Recalib on : 04 Oct 96 09:40 AM
Multiplier : 1

Page Number : 1
Vial Number : 45
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 2 in C:\HPCHEM\1\DATA\100396\045R0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.348	159615	PV	0.073	1	10.831	(H) Vinyl chloride
5.489	450987	BV	0.084	1	10.907	(H) 1,1-Dichloroethene
6.853	1031236	BB	0.073	1	21.557	MTBE ; (H) t-12DCE
7.711	253957	BB	0.087	1	10.489	DIPE
8.509	442251	BB	0.064	1	10.688	(H) c-12dce
9.566	456886	VV	0.062	1	10.847	(H) 11-Diclpropene
9.875	977774	PB	0.061	1	10.615	Benzene
10.296	582361	BB	0.059	1-I	5.000	* Fluorobenzene *
10.858	607222	BB	0.055	1	10.654	(H) Trichloroethene
11.280	170395	BV	0.065	1	5.252	$ a,a,a-Trifluorotoluene $
12.248	138239	BV	0.050	1	10.362	(H) c-13pene
12.755	927736	BV	0.052	1	10.690	Toluene
[illegible]066	130960	VV	0.046	1	10.310	(H) t-13pene
13.586	451553	VV	0.052	1	10.848	(H) Tetrachloroethene
14.853	803440	BV	0.048	1	10.565	(H) Chlorobenzene
15.021	872050	VV	0.050	1	10.691	Ethylbenzene
15.200	1950896	VB	0.050	1	21.366	m-Xylene ; p-Xylene
15.811	1617184	BV	0.053	1	21.215	o-Xylene ; Styrene
16.366	620380	BV	0.052	1	10.716	Isopropylbenzene
16.826	711102	BV	0.046	1	10.568	(H) Bromobenzene
17.001	809586	VV	0.050	1	10.797	n-Propylbenzene
17.131	824761	VV	0.048	1	10.671	(H) 2Cltoluene
17.283	2003625	VV	0.058	1	21.538	135-Trimethylbenz ; (H) 4Cltol
17.778	642505	VV	0.051	1	10.715	tert-Butylbenzene
17.852	897081	VV	0.049	1	10.750	124-Trimethylbenzene
18.121	688607	VV	0.054	1	10.841	sec-Butylbenzene
18.288	700268	VV	0.045	1	21.166	p-Isopropyltoluene ; (H) 13dcb
18.424	655005	VV	0.045	1	10.577	(H) 14dcb
18.994	1141230	VV	0.051	1	21.687	n-Butylbenzene ; (H) 12dcb
21.535	347097	BV	0.047	1	10.809	(H) 124-Triclbenzene
21.827	380989	VV	0.054	1	11.552	(H) Hexaclbutadiene
21.910	246572	VV	0.045	1	10.498	Naphthalene
22.301	290875	VV	0.046	1	10.808	(H) 123Triclbenzene



Data File Name	: C:\HPCHEM\1\DATA\100396\045R0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 45
Sample Name	: VSTD010	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 06:48 AM	Instrument Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:40 AM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 04 Oct 96 09:40 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

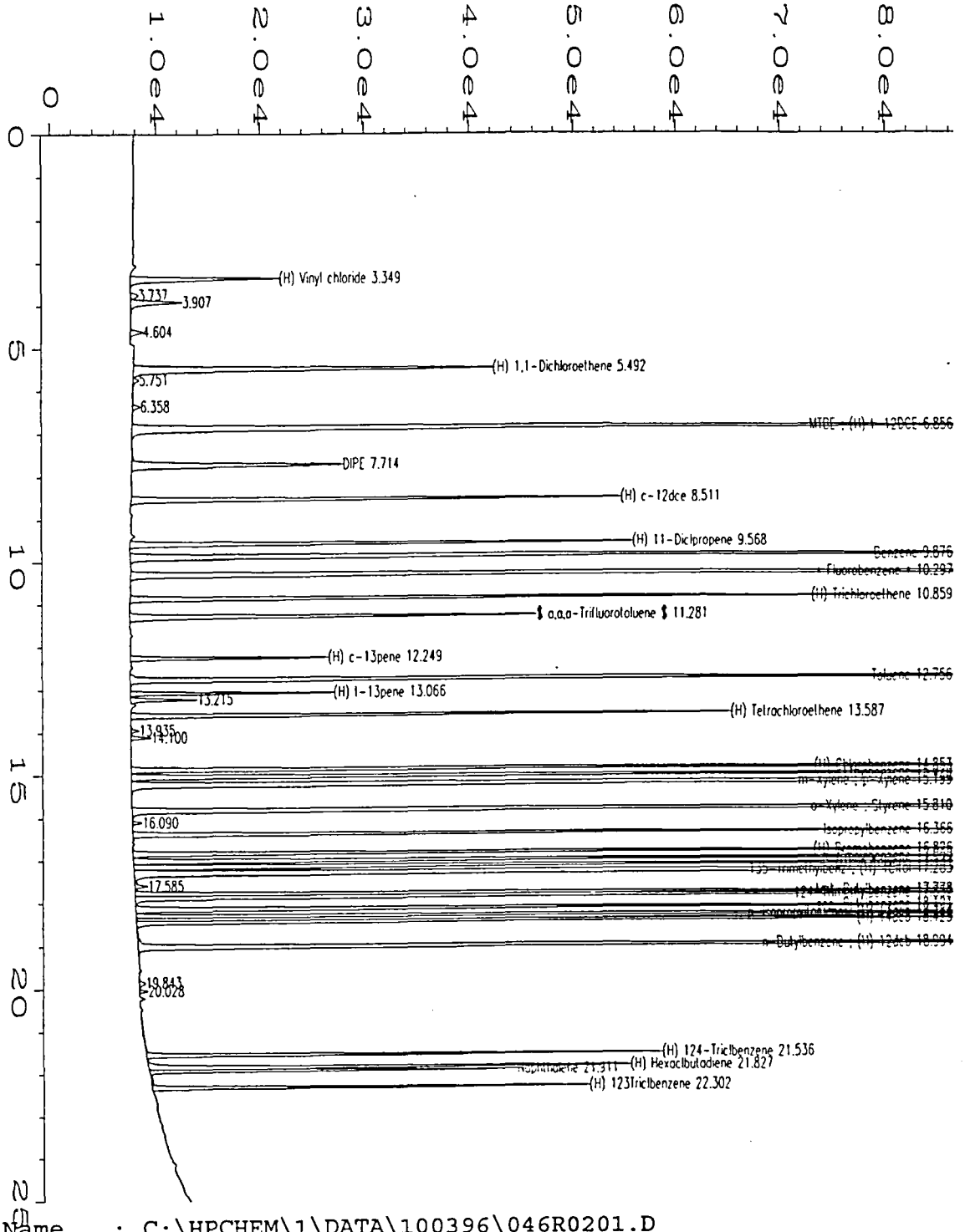
Internal Standard Report

Data File Name : C:\HPCHEM\1\DATA\100396\046R0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD005
Run Time Bar Code:
Acquired on : 04 Oct 96 07:20 AM
Report Created on: 04 Oct 96 09:41 AM
Last Recalib on : 04 Oct 96 09:41 AM
Multiplier : 1

Page Number : 1
Vial Number : 46
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 2 in C:\HPCHEM\1\DATA\100396\046R0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.349	67834	PV	0.072	1	4.672	(H) Vinyl chloride
5.492	191940	BV	0.085	1	4.674	(H) 1,1-Dichloroethene
6.856	444774	BV	0.073	1	9.357	MTBE ; (H) t-12DCE
7.714	114381	BB	0.088	1	4.652	DIPE
8.511	192545	BB	0.064	1	4.650	(H) c-12dce
9.568	192574	VV	0.062	1	4.642	(H) 11-Diclpropene
9.876	428519	PB	0.061	1	4.656	Benzene
10.297	579813	BB	0.059	1-I	5.000	* Fluorobenzene *
10.859	260379	BB	0.055	1	4.604	(H) Trichloroethene
11.281	159602	BB	0.063	1	5.000	$ a,a,a-Trifluorotoluene $
12.249	60352	BV	0.050	1	4.515	(H) c-13pene
[illegible].756	405976	BV	0.052	1	4.647	Toluene
[illegible].066	57195	PV	0.046	1	4.486	(H) t-13pene
13.587	191491	BB	0.052	1	4.667	(H) Tetrachloroethene
14.853	354171	BV	0.048	1	4.600	(H) Chlorobenzene
15.020	376897	VV	0.050	1	4.630	Ethylbenzene
15.199	848090	VB	0.050	1	9.260	m-Xylene ; p-Xylene
15.810	709939	BV	0.052	1	9.235	o-Xylene ; Styrene
16.366	267513	BV	0.052	1	4.641	Isopropylbenzene
16.826	312590	BV	0.047	1	4.619	(H) Bromobenzene
17.000	346942	VV	0.050	1	4.659	n-Propylbenzene
17.131	358307	VV	0.049	1	4.622	(H) 2Cltoluene
17.283	867130	VV	0.058	1	9.303	135-Trimethylbenz ; (H) 4Cltol
17.778	275405	VV	0.051	1	4.611	tert-Butylbenzene
17.852	387015	VV	0.049	1	4.641	124-Trimethylbenzene
18.121	292608	VV	0.053	1	4.640	sec-Butylbenzene
18.288	305606	VV	0.045	1	9.210	p-Isopropyltoluene ; (H) 13dcb
18.423	285393	VB	0.045	1	4.601	(H) 14dcb
18.994	482913	BV	0.051	1	9.246	n-Butylbenzene ; (H) 12dcb
21.536	148197	BV	0.047	1	4.451	(H) 124-Triclbenzene
21.827	162534	PV	0.054	1	4.780	(H) Hexaclbutadiene
21.911	105738	VV	0.046	1	4.274	Naphthalene
22.302	125705	VV	0.047	1	4.523	(H) 123Triclbenzene



Data File Name	: C:\HPCHEM\1\DATA\100396\046R0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 46
Sample Name	: VSTD005	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 07:20 AM	Instrument Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:41 AM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 04 Oct 96 09:41 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

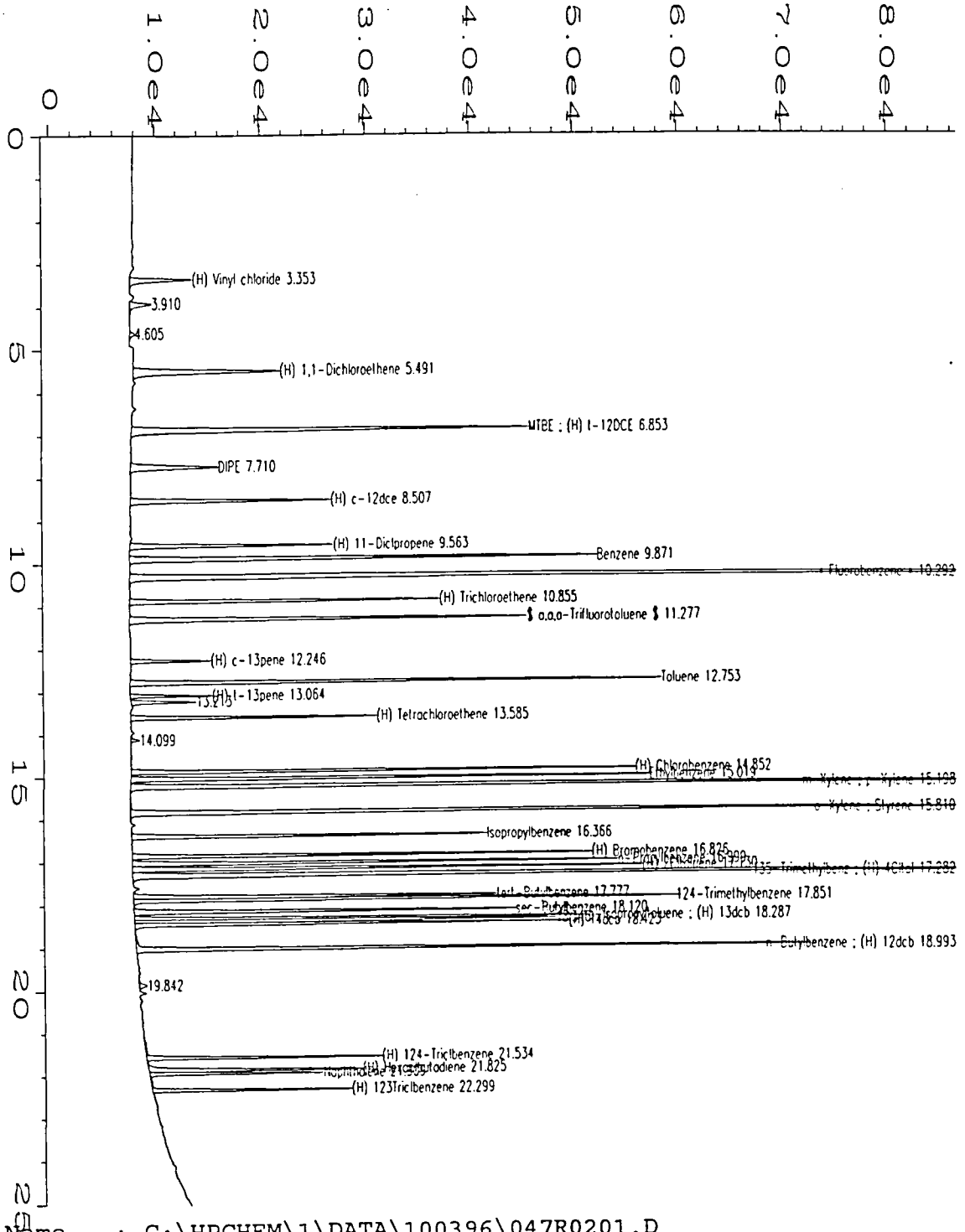
Internal Standard Report

Data File Name : C:\HPCHEM\1\DATA\100396\047R0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD002
Run Time Bar Code:
Acquired on : 04 Oct 96 07:52 AM
Report Created on: 04 Oct 96 09:41 AM
Last Recalib on : 04 Oct 96 09:41 AM
Multiplier : 1

Page Number : 1
Vial Number : 47
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 2 in C:\HPCHEM\1\DATA\100396\047R0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.353	27981	PB	0.071	1	2.023	(H) Vinyl chloride
5.491	77492	BV	0.084	1	1.964	(H) 1,1-Dichloroethene
6.853	177471	BV	0.072	1	3.926	MTBE ; (H) t-12DCE
7.710	46513	BB	0.088	1	1.941	DIPE
8.507	77479	BB	0.064	1	1.955	(H) c-12dce
9.563	76907	VV	0.063	1	1.969	(H) 11-Diclpropene
9.871	174531	PB	0.061	1	1.983	Benzene
10.292	562105	BB	0.059	1-I	5.000	* Fluorobenzene *
10.855	104891	BB	0.055	1	1.968	(H) Trichloroethene
11.277	151360	BB	0.062	1	4.891	$ a,a,a-Trifluorotoluene $
12.246	24198	BV	0.050	1	1.941	(H) c-13pene
[illegible].753	168068	BB	0.052	1	1.966	Toluene
[illegible].064	22716	BV	0.046	1	1.910	(H) t-13pene
13.585	77910	BB	0.052	1	1.982	(H) Tetrachloroethene
14.852	147063	BV	0.048	1	1.946	(H) Chlorobenzene
15.019	156571	VV	0.049	1	1.989	Ethylbenzene
15.198	360789	VB	0.050	1	4.015	m-Xylene ; p-Xylene
15.810	303272	BV	0.053	1	4.009	o-Xylene ; Styrene
16.366	112589	BV	0.052	1	2.016	Isopropylbenzene
16.826	131780	BV	0.047	1	1.997	(H) Bromobenzene
16.999	147497	VV	0.050	1	2.027	n-Propylbenzene
17.130	151949	VV	0.049	1	2.002	(H) 2Cltoluene
17.282	370119	VV	0.057	1	4.027	135-Trimethylbenz ; (H) 4Cltol
17.777	116768	VV	0.052	1	2.017	tert-Butylbenzene
17.851	166635	VV	0.049	1	2.034	124-Trimethylbenzene
18.120	125116	VV	0.054	1	2.029	sec-Butylbenzene
18.287	129789	VV	0.045	1	4.009	p-Isopropyltoluene ; (H) 13dcb
18.423	121613	VV	0.045	1	2.012	(H) 14dcb
18.993	213065	PV	0.052	1	4.130	n-Butylbenzene ; (H) 12dcb
21.534	69848	BV	0.048	1	1.999	(H) 124-Triclbenzene
21.825	72869	PV	0.055	1	1.937	(H) Hexaclbutadiene
21.909	49035	VV	0.046	1	1.909	Naphthalene
22.299	56983	VV	0.047	1	1.961	(H) 123Triclbenzene



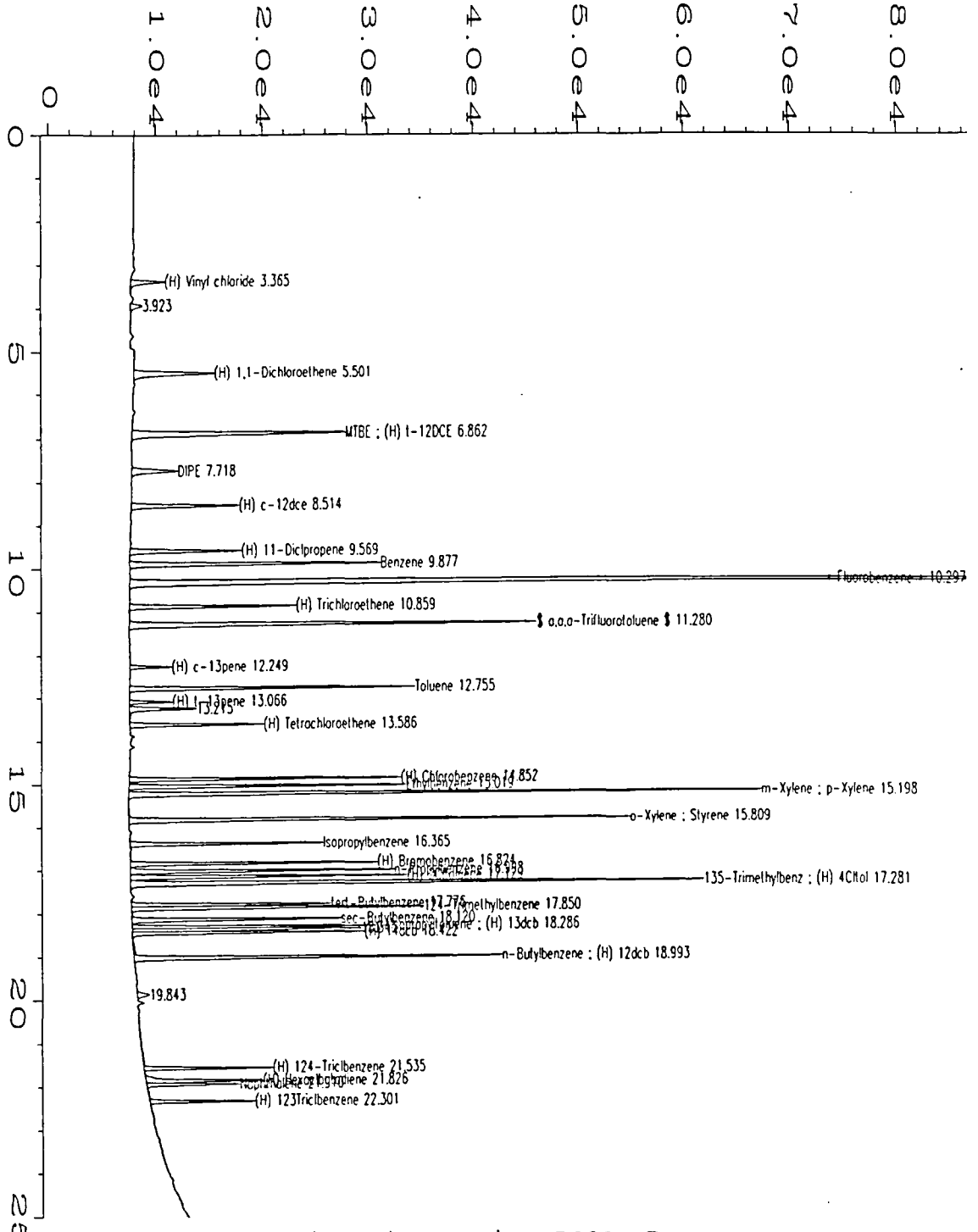
Data File Name	: C:\HPCHEM\1\DATA\100396\047R0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 47
Sample Name	: VSTD002	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 07:52 AM	Instrument Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:42 AM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 04 Oct 96 09:41 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Internal Standard Report

Data File Name	: C:\HPCHEM\1\DATA\100396\048R0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 48
Sample Name	: VSTD001	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 08:24 AM	Instrument Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:42 AM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 04 Oct 96 09:41 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Sig. 2 in C:\HPCHEM\1\DATA\100396\048R0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.365	15592	PV	0.072	1	1.160	(H) Vinyl chloride
5.501	42928	BV	0.087	1	1.101	(H) 1,1-Dichloroethene
6.862	94176	BB	0.072	1	2.128	MTBE ; (H) t-12DCE
7.718	24496	BB	0.088	1	0.975	DIPE
8.514	41195	BB	0.064	1	1.039	(H) c-12dce
9.569	41479	BB	0.062	1	1.107	(H) 11-Diclpropene
9.877	91813	BB	0.061	1	1.047	Benzene
10.297	572034	BB	0.059	1-I	5.000	* Fluorobenzene *
10.859	55798	BB	0.056	1	1.077	(H) Trichloroethene
11.280	152251	BB	0.062	1	4.835	$ a,a,a-Trifluorotoluene $
12.249	12680	BV	0.050	1	1.029	(H) c-13pene
[illegible]755	88783	BB	0.052	1	1.008	Toluene
[illegible].066	11839	BV	0.046	1	1.000	(H) t-13pene
13.586	41622	BV	0.052	1	1.089	(H) Tetrachloroethene
14.852	77859	BV	0.047	1	0.983	(H) Chlorobenzene
15.019	83151	VV	0.050	1	1.053	Ethylbenzene
15.198	192957	VB	0.050	1	2.095	m-Xylene ; p-Xylene
15.809	161471	BB	0.053	1	2.051	o-Xylene ; Styrene
16.365	60723	BV	0.052	1	1.087	Isopropylbenzene
16.824	70633	PV	0.047	1	1.043	(H) Bromobenzene
16.998	80831	VV	0.050	1	1.109	n-Propylbenzene
17.129	81440	VV	0.049	1	1.049	(H) 2Cltoluene
17.281	198570	VV	0.058	1	2.108	135-Trimethylbenz ; (H) 4Cltol
17.776	63336	VV	0.052	1	1.092	tert-Butylbenzene
17.850	88360	VB	0.049	1	1.061	124-Trimethylbenzene
18.120	67817	BV	0.054	1	1.098	sec-Butylbenzene
18.286	68497	VV	0.045	1	2.071	p-Isopropyltoluene ; (H) 13dcb
18.422	64215	VV	0.045	1	1.044	(H) 14dcb
18.993	115923	PV	0.052	1	2.224	n-Butylbenzene ; (H) 12dcb
21.535	38139	BV	0.049	1	0.943	(H) 124-Triclbenzene
21.826	40845	PV	0.057	1	0.933	(H) Hexaclbutadiene
21.910	26155	VV	0.046	1	0.870	Naphthalene
22.301	29677	VV	0.047	1	0.893	(H) 123Triclbenzene



Data File Name	: C:\HPCHEM\1\DATA\100396\048R0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 48
Sample Name	: VSTD001	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 08:24 AM	Instrument Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:42 AM	Analysis Method	: 502_PID.MTH
Last Recalib on	: 04 Oct 96 09:41 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Calibration Report

Data File Name	: C:\HPCHEM\1\DATA\100396\048F0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 48
Sample Name	: VSTD001	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 08:24 AM	Instrument Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:30 AM	Analysis Method	: 502_HAL.MTH
Last Recalib on	: 04 Oct 96 09:29 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Calibration Table

Pk#	RT	Lvl	µg/L	Amt/Area	Ref Istd I#	Name
1	2.916	1	1.0	1.0831e-006	1	Dichlorodifluorometh...
		2	2.0	1.2868e-006		
		3	5.0	1.175e-006		
		4	10.0	8.623e-007		
		5	25.0	9.168e-007		
2	3.199	1	1.0	1.8352e-006	1	Chloromethane
		2	2.0	1.7252e-006		
		3	5.0	1.5707e-006		
		4	10.0	1.3006e-006		
		5	25.0	1.4994e-006		
3	3.391	1	1.0	6.6867e-007	1	Vinyl chloride
		2	2.0	7.2122e-007		
		3	5.0	7.5783e-007		
		4	10.0	6.6124e-007		
		5	25.0	7.6491e-007		
4	3.957	1	1.0	3.3583e-006	1	Bromomethane
		2	2.0	3.3489e-006		
		3	5.0	2.7383e-006		
		4	10.0	2.1865e-006		
		5	25.0	2.6017e-006		
5	4.126	1	1.0	1.5536e-006	1	Chloroethane
		2	2.0	1.7656e-006		
		3	5.0	1.7275e-006		
		4	10.0	1.4659e-006		
		5	25.0	1.7135e-006		
6	4.585	1	1.0	5.6173e-007	1	Trichlorofluorometha...
		2	2.0	6.4692e-007		
		3	5.0	6.5465e-007		
		4	10.0	5.6431e-007		
		5	25.0	6.385e-007		
7	5.526	1	1.0	2.5716e-007	1	1,1-Dichloroethene
		2	2.0	2.7277e-007		
		3	5.0	2.801e-007		
		4	10.0	2.5026e-007		
		5	25.0	2.8996e-007		
8	6.386	1	1.0	2.0527e-007	1	Methylene chloride
		2	2.0	2.5699e-007		
		3	5.0	3.0565e-007		
		4	10.0	2.9363e-007		
		5	25.0	3.4446e-007		
9	6.885	1	1.0	2.3701e-007	1	t-1,2-Dichloroethene
		2	2.0	2.5256e-007		
		3	5.0	2.6643e-007		
		4	10.0	2.4106e-007		

		5	25.0	2.8798e-007		
10	7.585	1	1.0	2.3887e-007	1	1,1-Dichloroethane
		2	2.0	2.5525e-007		
		3	5.0	2.6931e-007		
		4	10.0	2.476e-007		
		5	25.0	2.9734e-007		
11	8.536	1	2.0	3.4605e-007	1	c-12Diclethene ; 22D...
		2	4.0	3.6192e-007		
		3	10.0	3.8034e-007		
		4	20.0	3.5524e-007		
		5	50.0	4.9209e-007		
12	8.909	1	1.0	7.6163e-007	1	Bromochloromethane
		2	2.0	7.2337e-007		
		3	5.0	7.136e-007		
		4	10.0	6.4518e-007		
		5	25.0	7.0432e-007		
13	9.047	1	1.0	1.7732e-007	1	Chloroform
		2	2.0	1.9874e-007		
		3	5.0	2.2516e-007		
		4	10.0	2.1907e-007		
		5	25.0	2.8172e-007		
14	9.335	1	1.0	1.9827e-007	1	1,1,1-Trichloroethan...
		2	2.0	2.125e-007		
		3	5.0	2.2877e-007		
		4	10.0	2.1104e-007		
		5	25.0	2.6063e-007		
	9.596	1	2.0	2.1858e-007	1	Carbon Tetracl ; 11D...
		2	4.0	2.4254e-007		
		3	10.0	2.6246e-007		
		4	20.0	2.565e-007		
		5	50.0	4.3661e-007		
16	9.911	1	1.0	4.8936e-007	1	1,2-Dichloroethane
		2	2.0	5.0576e-007		
		3	5.0	5.2868e-007		
		4	10.0	5.0098e-007		
		5	25.0	5.7306e-007		
17	10.881	1	1.0	2.3246e-007	1	Trichloroethene
		2	2.0	2.37e-007		
		3	5.0	2.4921e-007		
		4	10.0	2.3735e-007		
		5	25.0	3.1655e-007		
18	11.193	1	1.0	3.5806e-007	1	1,2-Dichloropropane
		2	2.0	3.7205e-007		
		3	5.0	3.9979e-007		
		4	10.0	3.7773e-007		
		5	25.0	4.3029e-007		
19	11.375	1	1.0	1.3446e-006	1	Dibromomethane
		2	2.0	1.2607e-006		
		3	5.0	1.2307e-006		
		4	10.0	1.0985e-006		
		5	25.0	1.1804e-006		
20	11.612	1	1.0	4.5769e-007	1	Bromodichloromethane
		2	2.0	4.558e-007		
		3	5.0	4.6169e-007		
		4	10.0	4.2061e-007		
		5	25.0	4.6628e-007		
21	12.272	1	1.0	5.6524e-007	1	c-1,3-Dichloropropen...
		2	2.0	5.5992e-007		
		3	5.0	5.6816e-007		

		4	10.0	5.1665e-007			
		5	25.0	5.9714e-007			
22	13.090	1	1.0	1.0337e-006		1	t-1,3-Dichloropropen...
		2	2.0	9.5094e-007			
		3	5.0	9.2477e-007			
		4	10.0	8.1516e-007			
		5	25.0	8.8548e-007			
23	13.238	1	5.0	3.8027e-007	ISTD	1	* Bromochloropropane...
		2	5.0	3.8468e-007			
		3	5.0	3.7231e-007			
		4	5.0	3.6782e-007			
		5	5.0	3.5272e-007			
		6	5.0	3.7231e-007			
24	13.356	1	1.0	3.8804e-007		1	1,1,2-Trichloroethan...
		2	2.0	4.7624e-007			
		3	5.0	5.7338e-007			
		4	10.0	5.7951e-007			
		5	25.0	6.8602e-007			
25	13.607	1	2.0	3.0638e-007		1	Tetraclethane ; 13Di...
		2	4.0	3.4211e-007			
		3	10.0	3.843e-007			
		4	20.0	3.709e-007			
		5	50.0	6.0135e-007			
26	13.961	1	1.0	1.1195e-006		1	Dibromochloromethane
		2	2.0	1.057e-006			
		3	5.0	1.0437e-006			
		4	10.0	9.6602e-007			
		5	25.0	9.911e-007			
27	14.131	1	1.0	1.5857e-006		1	1,2-Dibromoethane (E...
		2	2.0	1.5161e-006			
		3	5.0	1.4832e-006			
		4	10.0	1.3864e-006			
		5	25.0	1.4367e-006			
28	14.875	1	1.0	7.7171e-007		1	Chlorobenzene
		2	2.0	7.4697e-007			
		3	5.0	7.6e-007			
		4	10.0	7.139e-007			
		5	25.0	7.6461e-007			
29	14.991	1	1.0	2.8638e-007		1	1,1,1,2-Tetrachloroe...
		2	2.0	2.9504e-007			
		3	5.0	3.19e-007			
		4	10.0	3.1342e-007			
		5	25.0	3.6701e-007			
30	16.124	1	1.0	4.194e-006		1	Bromoform
		2	2.0	3.1408e-006			
		3	5.0	2.5573e-006			
		4	10.0	2.1169e-006			
		5	25.0	2.0301e-006			
31	16.517	6	5.0	1.1886e-006		1	$ 1,4-Dichlorobutane...
32	16.846	1	2.0	1.5801e-006		1	Bromobenzene ; 123tr...
		2	4.0	1.7036e-006			
		3	10.0	1.7846e-006			
		4	20.0	1.7611e-006			
		5	50.0	1.887e-006			
33	16.864	1	1.0	1.0248e-006		1	1,1,2,2-Tetrachloroe...
		2	2.0	9.2548e-007			
		3	5.0	9.7764e-007			
		4	10.0	8.8001e-007			
		5	25.0	9.2041e-007			

34	17.152	1	1.0	6.4709e-007	1	2-Chlorotoluene

Method: C:\HPCHEM\1\METHODS\502_HAL.MTH

		2	2.0	6.6477e-007		
		3	5.0	6.8906e-007		
		4	10.0	6.3711e-007		
		5	25.0	6.9951e-007		
35	17.316	1	1.0	6.0393e-007	1	4-Chlorotoluene
		2	2.0	6.3881e-007		
		3	5.0	6.8578e-007		
		4	10.0	6.478e-007		
		5	25.0	7.1772e-007		
36	18.308	1	1.0	5.2918e-007	1	1,3-Dichlorobenzene
		2	2.0	5.3494e-007		
		3	5.0	5.5726e-007		
		4	10.0	5.1607e-007		
		5	25.0	5.751e-007		
37	18.444	1	1.0	4.449e-007	1	1,4-Dichlorobenzene
		2	2.0	4.6413e-007		
		3	5.0	5.1564e-007		
		4	10.0	4.913e-007		
		5	25.0	5.5794e-007		
38	19.024	1	1.0	6.0307e-007	1	1,2-Dichlorobenzene
		2	2.0	6.1625e-007		
		3	5.0	6.6407e-007		
		4	10.0	6.1481e-007		
		5	25.0	6.7584e-007		
[illegible]	20.237	1	1.0	1.3639e-005	1	1,2-Dibromo-3-chloro...
		2	2.0	1.0161e-005		
		3	5.0	8.386e-006		
		4	10.0	5.9964e-006		
		5	25.0	5.5836e-006		
40	21.558	1	1.0	5.3132e-007	1	1,2,4-Trichlorobenze...
		2	2.0	5.3032e-007		
		3	5.0	5.908e-007		
		4	10.0	5.2488e-007		
		5	25.0	6.261e-007		
41	21.849	1	1.0	2.3796e-007	1	Hexachlorobutadiene
		2	2.0	2.4786e-007		
		3	5.0	2.8193e-007		
		4	10.0	2.6357e-007		
		5	25.0	3.5199e-007		
42	22.324	1	1.0	6.2008e-007	1	1,2,3-Trichlorobenze...
		2	2.0	5.7225e-007		
		3	5.0	6.6318e-007		
		4	10.0	6.1016e-007		
		5	25.0	7.1597e-007		

Calibration Settings

Title:
8021 HALL 5mL

Reference window:	5.000 %
Non-reference window:	5.000 %
Units of amount:	µg/L
Multiplier:	1.0
RF uncal peaks:	0.0
ISTD# to adjust uncal peaks:	0
Sample Amount:	0.0

Sample ISTD Information

I#	Amount
1	5.0

Multilevel Information

Fit: Linear
Origin: Force

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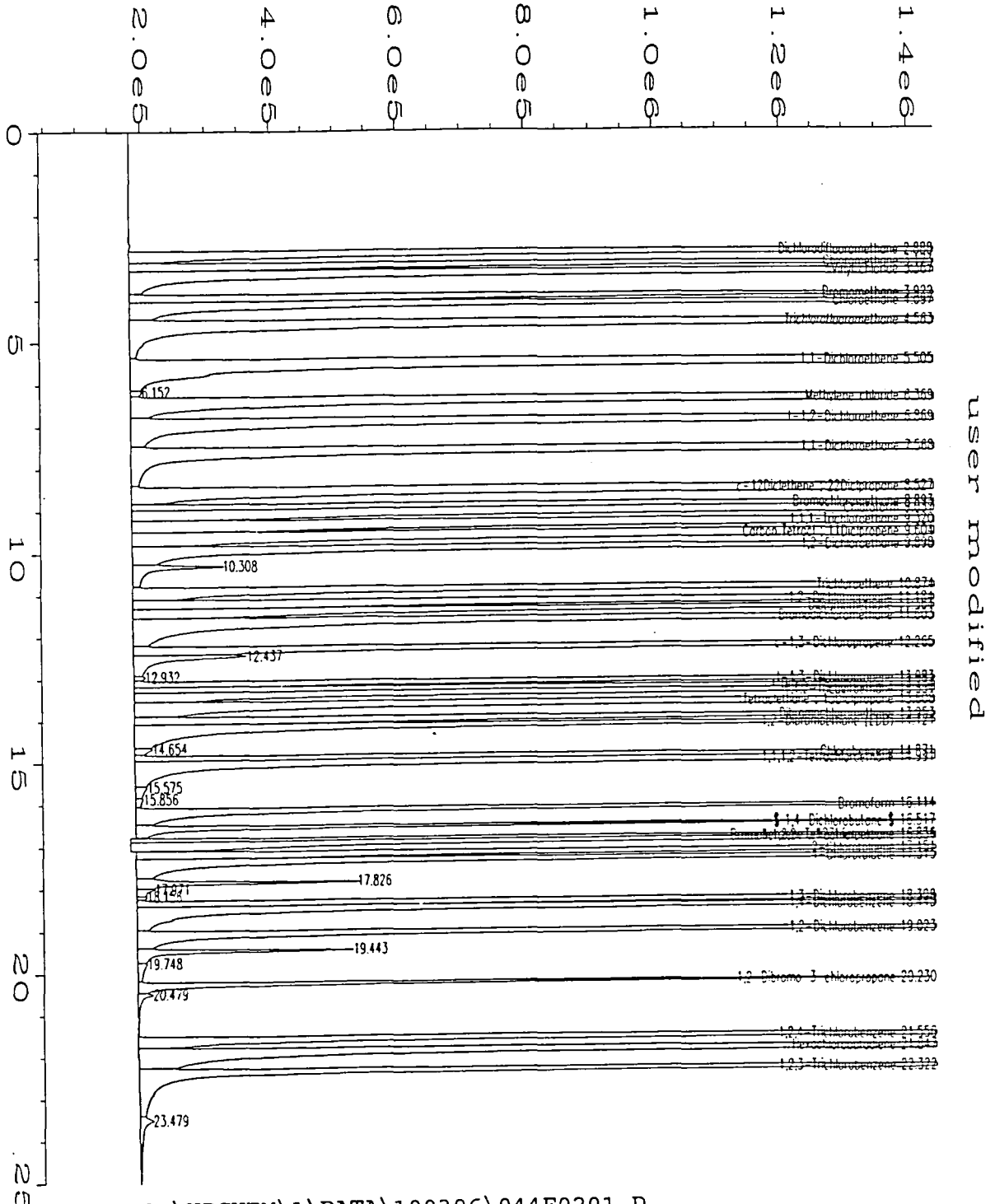
Internal Standard Report

Data File Name	: C:\HPCHEM\1\DATA\100396\044F0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 44
Sample Name	: VSTD025	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 06:16 AM	Instrument Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:24 AM	Analysis Method	: 502_HAL.MTH
Last Recalib on	: 04 Oct 96 09:24 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Sig. 1 in C:\HPCHEM\1\DATA\100396\044F0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.888	2.72687E+007	VV	0.073	1	24.853	Dichlorodifluoromethane
3.173	1.66737E+007	VV	0.071	1	22.788	Chloromethane
3.367	3.26837E+007	VV	0.078	1	23.827	Vinyl chloride
3.922	9608971	VV	0.084	1	22.961	Bromomethane
4.097	1.45902E+007	VV	0.092	1	22.834	Chloroethane
4.563	3.91542E+007	VV	0.101	1	23.623	Trichlorofluoromethane
5.505	8.62193E+007	VV	0.096	1	24.399	1,1-Dichloroethene
6.369	7.25774E+007	VV	0.086	1	24.151	Methylene chloride
6.869	8.68107E+007	VV	0.085	1	24.353	t-1,2-Dichloroethene
7.568	8.40802E+007	VV	0.090	1	24.240	1,1-Dichloroethane
8.527	1.01608E+008	VV	0.101	1	46.102	c-12Diclethene ; 22Diclpropane
[illegible]893	3.54952E+007	VV	0.065	1	24.257	Bromochloromethane
[illegible].037	8.87398E+007	VV	0.086	1	23.897	Chloroform
9.320	9.59196E+007	VV	0.093	1	24.062	1,1,1-Trichloroethane
9.604	1.14519E+008	VV	0.115	1	45.434	Carbon Tetracl ; 11Diclpropene
9.898	4.36255E+007	VV	0.066	1	24.152	1,2-Dichloroethane
10.874	7.89753E+007	VV	0.079	1	23.767	Trichloroethene
11.184	5.81001E+007	VV	0.069	1	24.197	1,2-Dichloropropane
11.364	2.11797E+007	VV	0.062	1	24.397	Dibromomethane
11.603	5.36162E+007	VV	0.066	1	24.328	Bromodichloromethane
12.265	4.18662E+007	VV	0.058	1	24.032	c-1,3-Dichloropropene
13.083	2.82332E+007	VV	0.051	1	24.250	t-1,3-Dichloropropene
13.234	1.41755E+007	VV	0.061	1-I	5.000	* Bromochloropropane *
13.354	3.64418E+007	VV	0.061	1	24.164	1,1,2-Trichloroethane
13.608	8.31457E+007	VV	0.084	1	46.242	Tetraclethane ; 13Diclpropane
13.953	2.52244E+007	VV	0.060	1	24.569	Dibromochloromethane
14.121	1.74016E+007	VV	0.064	1	24.513	1,2-Dibromoethane (EDB)
14.871	3.26965E+007	VV	0.053	1	24.450	Chlorobenzene
14.991	6.81186E+007	VV	0.066	1	24.248	1,1,1,2-Tetrachloroethane
16.114	1.23144E+007	VV	0.059	1	24.798	Bromoform
16.517	4767557	VF	0.056	1	5.362	$ 1,4-Dichlorobutane $
16.836	2.64967E+007	MF	0.046	1	46.573	Bromobenzene ; 123triclpropane
16.851	2.71619E+007	FM	0.048	1	25.457	1,1,2,2-Tetrachloroethane
17.151	3.57395E+007	FV	0.055	1	24.449	2-Chlorotoluene
17.315	3.48324E+007	VV	0.054	1	24.407	4-Chlorotoluene
18.308	4.3471E+007	VV	0.053	1	24.267	1,3-Dichlorobenzene
18.445	4.48079E+007	VV	0.054	1	24.175	1,4-Dichlorobenzene
19.023	3.69908E+007	VV	0.053	1	24.386	1,2-Dichlorobenzene
[illegible].230	4477434	VV	0.056	1	25.031	1,2-Dibromo-3-chloropropane
[illegible].556	3.993E+007	PV	0.054	1	23.756	1,2,4-Trichlorobenzene
21.847	7.10247E+007	VV	0.070	1	24.029	Hexachlorobutadiene
22.322	3.49176E+007	VV	0.054	1	23.907	1,2,3-Trichlorobenzene

User Modified



Data File Name : C:\HPCHEM\1\DATA\100396\044F0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD025
Real Time Bar Code:
Acquired on : 04 Oct 96 06:16 AM
Report Created on: 04 Oct 96 09:24 AM
Last Recalib on : 04 Oct 96 09:24 AM
Multiplier : 1

Page Number : 1
Vial Number : 44
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

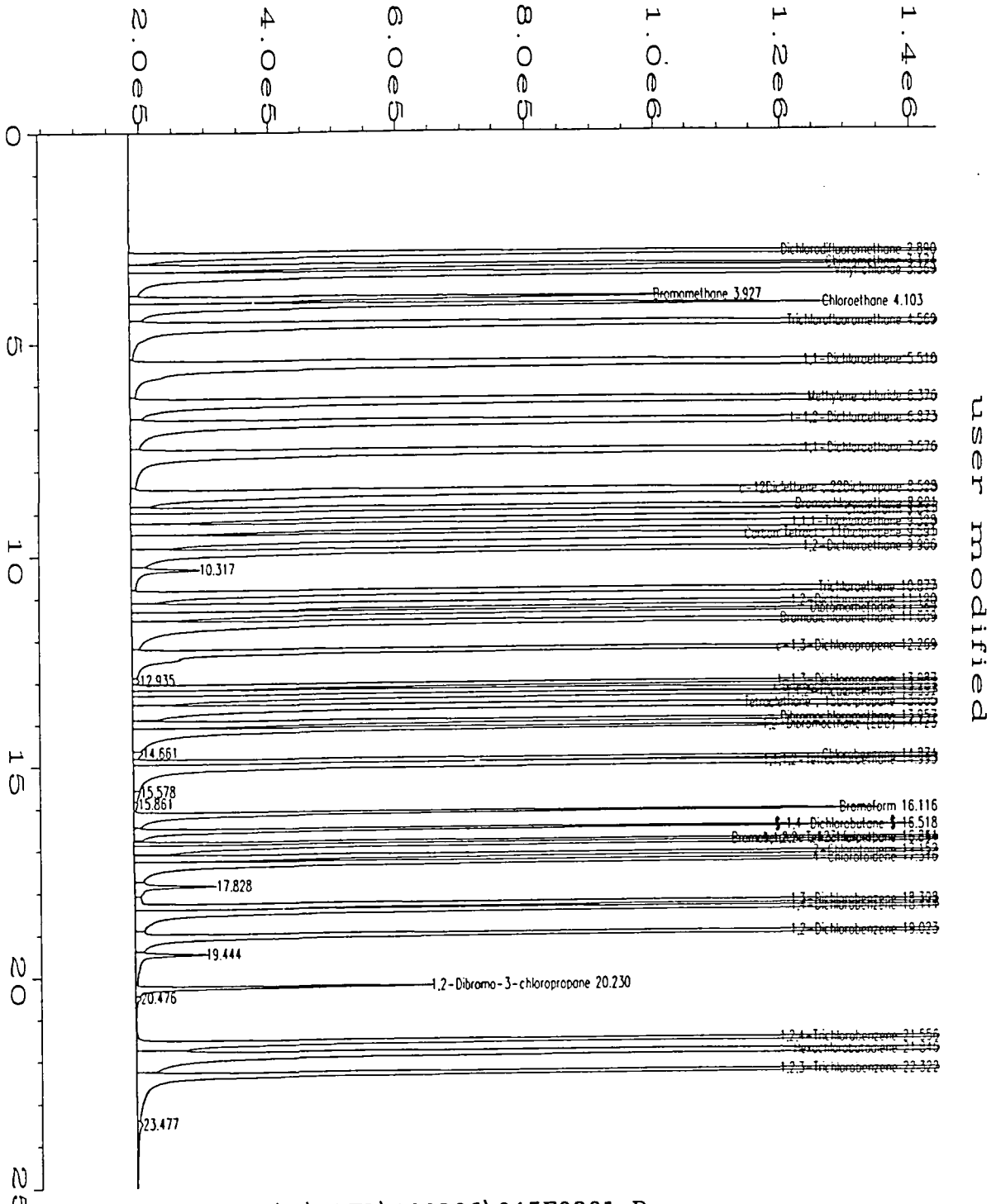
Internal Standard Report

Data File Name	: C:\HPCHEM\1\DATA\100396\045F0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 45
Sample Name	: VSTD010	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 06:48 AM	Instrument Method:	502_HAL.MTH
Report Created on:	04 Oct 96 09:25 AM	Analysis Method	: 502_HAL.MTH
Last Recalib on	: 04 Oct 96 09:25 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Sig. 1 in C:\HPCHEM\1\DATA\100396\045F0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.890	1.15969E+007	VV	0.073	1	11.675	Dichlorodifluoromethane
3.174	7688632	VV	0.071	1	11.132	Chloromethane
3.369	1.51232E+007	VV	0.080	1	11.472	Vinyl chloride
3.927	4573550	VV	0.086	1	11.786	Bromomethane
4.103	6821784	VV	0.094	1	11.302	Chloroethane
4.569	1.77206E+007	VV	0.102	1	11.507	Trichlorofluoromethane
5.510	3.99581E+007	VV	0.091	1	11.852	1,1-Dichloroethene
6.376	3.40569E+007	VV	0.082	1	11.605	Methylene chloride
6.873	4.1483E+007	VV	0.080	1	12.062	t-1,2-Dichloroethene
7.576	4.03871E+007	VV	0.084	1	12.027	1,1-Dichloroethane
8.528	5.63004E+007	VV	0.078	1	26.197	c-12Diclethene ; 22Diclpropane
[illegible]901	1.54996E+007	VV	0.066	1	11.246	Bromochloromethane
[illegible].041	4.56483E+007	VV	0.074	1	12.485	Chloroform
9.328	4.73851E+007	VV	0.084	1	12.248	1,1,1-Trichloroethane
9.591	7.79716E+007	VV	0.079	1	31.280	Carbon Tetracl ; 11Diclpropene
9.906	1.99608E+007	VV	0.064	1	11.476	1,2-Dichloroethane
10.877	4.21316E+007	VV	0.061	1	12.940	Trichloroethene
11.190	2.64737E+007	VV	0.068	1	11.442	1,2-Dichloropropane
11.369	9103456	VV	0.063	1	11.157	Dibromomethane
11.609	2.37751E+007	VV	0.066	1	11.287	Bromodichloromethane
12.269	1.93553E+007	VV	0.056	1	11.539	c-1,3-Dichloropropene
13.087	1.22675E+007	VV	0.050	1	11.103	t-1,3-Dichloropropene
13.237	1.35937E+007	VV	0.061	1-I	5.000	* Bromochloropropane *
13.357	1.72561E+007	VV	0.060	1	11.363	1,1,2-Trichloroethane
13.605	5.39231E+007	VV	0.060	1	29.969	Tetraclethane ; 13Diclpropane
13.957	1.03517E+007	VV	0.059	1	10.696	Dibromochloromethane
14.123	7212732	VV	0.066	1	10.768	1,2-Dibromoethane (EDB)
14.874	1.40076E+007	VV	0.050	1	11.041	Chlorobenzene
14.993	3.19064E+007	VV	0.062	1	11.510	1,1,1,2-Tetrachloroethane
16.116	4723962	VV	0.061	1	10.605	Bromoform
16.518	4236275	VF	0.054	1	4.969	$ 1,4-Dichlorobutane $
16.841	1.13566E+007	MF	0.046	1	21.346	Bromobenzene ; 123triclpropane
16.854	1.13636E+007	FM	0.047	1	11.034	1,1,2,2-Tetrachloroethane
17.152	1.56958E+007	FV	0.053	1	11.336	2-Chlorotoluene
17.316	1.54369E+007	VV	0.052	1	11.346	4-Chlorotoluene
18.308	1.93771E+007	VV	0.050	1	11.423	1,3-Dichlorobenzene
18.444	2.03544E+007	VV	0.052	1	11.457	1,4-Dichlorobenzene
19.023	1.62653E+007	VV	0.052	1	11.271	1,2-Dichlorobenzene
[illegible].230	1667655	VV	0.055	1	10.478	1,2-Dibromo-3-chloropropane
[illegible].556	1.90518E+007	VV	0.053	1	11.939	1,2,4-Trichlorobenzene
21.846	3.79413E+007	VV	0.064	1	13.214	Hexachlorobutadiene
22.322	1.63891E+007	VV	0.053	1	11.668	1,2,3-Trichlorobenzene

User Modified



Data File Name : C:\HPCHEM\1\DATA\100396\045F0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD010
Run Time Bar Code:
Acquired on : 04 Oct 96 06:48 AM
Report Created on: 04 Oct 96 09:26 AM
Last Recalib on : 04 Oct 96 09:25 AM
Multiplier : 1

Page Number : 1
Vial Number : 45
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Internal Standard Report

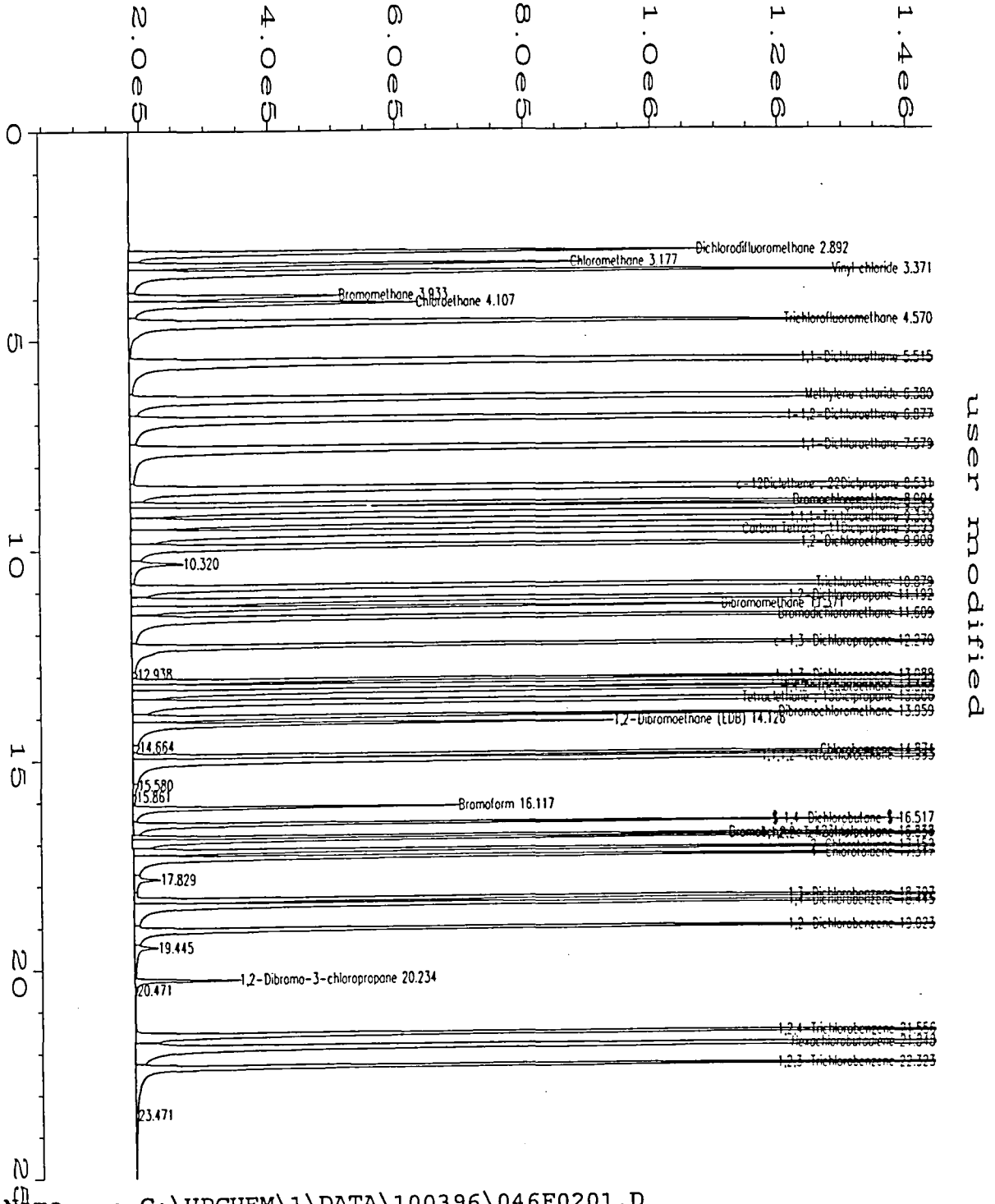
Data File Name : C:\HPCHEM\1\DATA\100396\046F0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD005
Run Time Bar Code:
Acquired on : 04 Oct 96 07:20 AM
Report Created on: 04 Oct 96 09:27 AM
Last Recalib on : 04 Oct 96 09:27 AM
Multiplier : 1

Page Number : 1
Vial Number : 46
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 1 in C:\HPCHEM\1\DATA\100396\046F0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.892	4255364	VV	0.070	1	4.703	Dichlorodifluoromethane
3.177	3183374	VV	0.069	1	4.365	Chloromethane
3.371	6597828	VV	0.085	1	4.664	Vinyl chloride
3.933	1825973	VV	0.086	1	4.548	Bromomethane
4.107	2894358	VV	0.093	1	4.425	Chloroethane
4.570	7637674	VV	0.102	1	4.786	Trichlorofluoromethane
5.515	1.78509E+007	VV	0.092	1	5.058	1,1-Dichloroethene
6.380	1.63585E+007	VV	0.083	1	5.064	Methylene chloride
6.877	1.8767E+007	VV	0.078	1	5.095	t-1,2-Dichloroethene
7.579	1.85659E+007	VV	0.083	1	5.119	1,1-Dichloroethane
8.531	2.62925E+007	VV	0.075	1	10.385	c-12Diclethene ; 22Diclpropane
[illegible].904	7006765	VV	0.064	1	4.979	Bromochloromethane
[illegible].043	2.22061E+007	VV	0.071	1	5.328	Chloroform
9.330	2.18564E+007	VV	0.083	1	5.138	1,1,1-Trichloroethane
9.593	3.81016E+007	VV	0.077	1	12.001	Carbon Tetracl ; 11Diclpropene
9.908	9457484	VV	0.065	1	5.087	1,2-Dichloroethane
10.879	2.0063E+007	VV	0.061	1	5.395	Trichloroethene
11.192	1.25067E+007	VV	0.067	1	5.078	1,2-Dichloropropane
11.371	4062703	VV	0.065	1	4.945	Dibromomethane
11.609	1.08298E+007	VV	0.062	1	4.934	Bromodichloromethane
12.270	8800263	VV	0.055	1	4.915	c-1,3-Dichloropropene
13.088	5406734	VV	0.049	1	4.791	t-1,3-Dichloropropene
13.237	1.34298E+007	VV	0.060	1-I	5.000	* Bromochloropropane *
13.358	8720241	VV	0.061	1	5.007	1,1,2-Trichloroethane
13.606	2.60212E+007	VV	0.057	1	11.397	Tetraclethane ; 13Diclpropane
13.959	4790762	VV	0.059	1	4.922	Dibromochloromethane
14.126	3371143	VV	0.065	1	4.991	1,2-Dibromoethane (EDB)
14.874	6578969	VV	0.050	1	5.041	Chlorobenzene
14.993	1.56742E+007	VV	0.061	1	5.127	1,1,1,2-Tetrachloroethane
16.117	1955169	VV	0.058	1	4.787	Bromoform
16.517	4206456	VF	0.054	1	5.000	$ 1,4-Dichlorobutane $
16.838	5603494	MF	0.049	1	10.050	Bromobenzene ; 123triclpropane
16.857	5114353	FM	0.050	1	4.892	1,1,2,2-Tetrachloroethane
17.152	7256234	FV	0.053	1	5.057	2-Chlorotoluene
17.317	7290992	VV	0.053	1	5.088	4-Chlorotoluene
18.307	8972512	VV	0.050	1	5.069	1,3-Dichlorobenzene
18.445	9696641	VV	0.053	1	5.097	1,4-Dichlorobenzene
19.023	7529342	VV	0.052	1	5.010	1,2-Dichlorobenzene
[illegible].234	596229	VV	0.055	1	4.371	1,2-Dibromo-3-chloropropane
21.556	8463147	PV	0.052	1	4.944	1,2,4-Trichlorobenzene
21.848	1.77346E+007	VV	0.061	1	5.502	Hexachlorobutadiene
22.323	7539386	VV	0.053	1	4.981	1,2,3-Trichlorobenzene

User Modified



Data File Name	: C:\HPCHEM\1\DATA\100396\046F0201.D	Page Number	: 1
Operator	: RNP	Vial Number	: 46
Instrument	: HALL/PID	Injection Number	: 1
Sample Name	: VSTD005	Sequence Line	: 2
Real Time Bar Code:		Instrument Method	: 502_HAL.MTH
Acquired on	: 04 Oct 96 07:20 AM	Analysis Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:27 AM	Sample Amount	: 0
Last Recalib on	: 04 Oct 96 09:27 AM	ISTD Amount	: 5
Multiplier	: 1		

Internal Standard Report

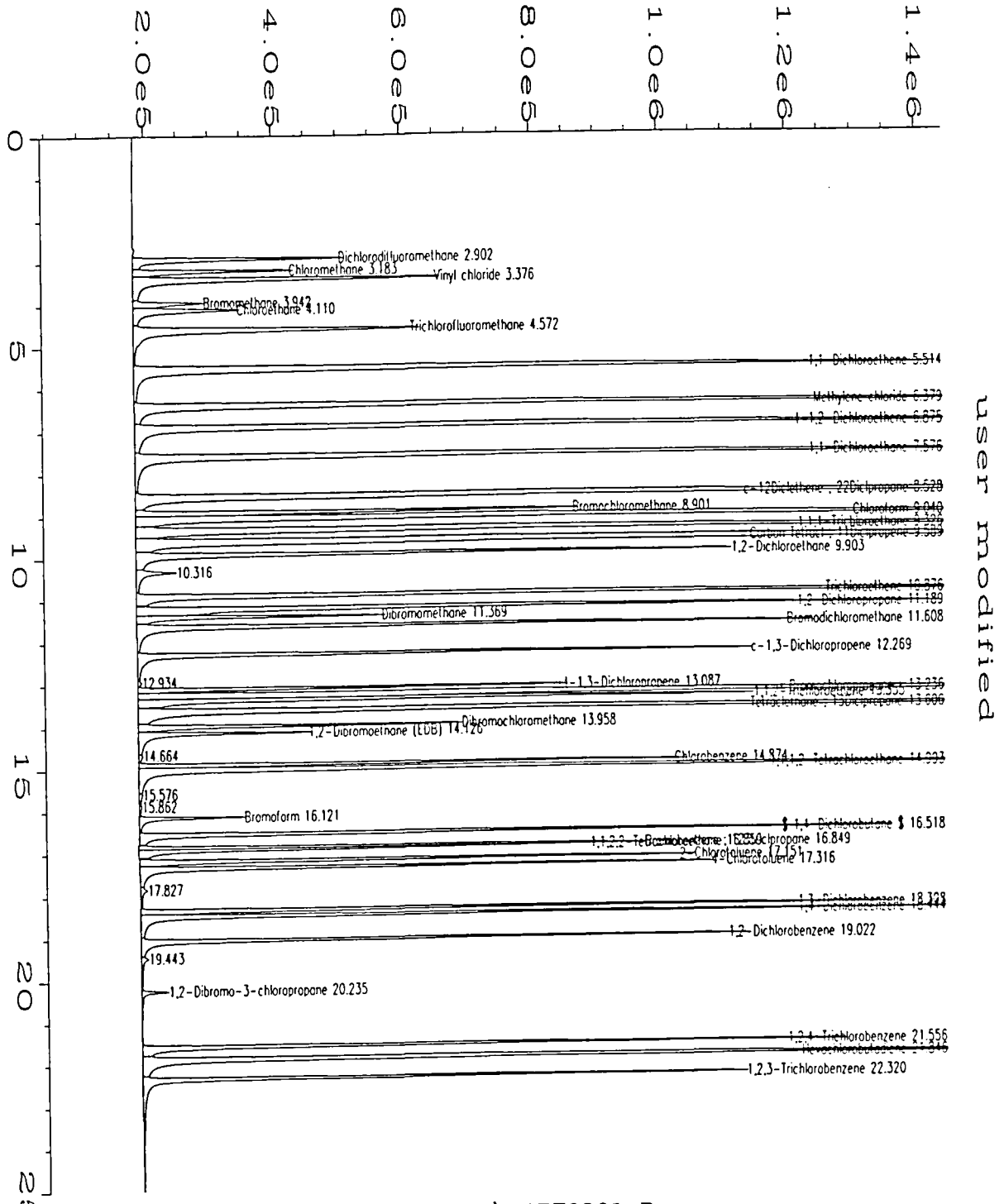
Data File Name : C:\HPCHEM\1\DATA\100396\047F0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD002
Run Time Bar Code:
Acquired on : 04 Oct 96 07:52 AM
Report Created on: 04 Oct 96 09:29 AM
Last Recalib on : 04 Oct 96 09:29 AM
Multiplier : 1

Page Number : 1
Vial Number : 47
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 1 in C:\HPCHEM\1\DATA\100396\047F0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.902	1554259	VV	0.073	1	1.975	Dichlorodifluoromethane
3.183	1159278	VV	0.070	1	1.494	Chloromethane
3.376	2773096	VV	0.087	1	1.688	Vinyl chloride
3.942	597205	VV	0.083	1	1.430	Bromomethane
4.110	1132757	VV	0.100	1	1.525	Chloroethane
4.572	3091575	VV	0.106	1	1.761	Trichlorofluoromethane
5.514	7332069	VV	0.093	1	1.796	1,1-Dichloroethene
6.379	7782276	VV	0.080	1	1.885	Methylene chloride
6.875	7918837	VV	0.080	1	1.742	t-1,2-Dichloroethene
7.576	7835506	VV	0.083	1	1.721	1,1-Dichloroethane
8.528	1.10521E+007	VV	0.071	1	2.523	c-12Diclethene ; 22Diclpropane
[illegible].901	2764850	VV	0.063	1	1.872	Bromochloromethane
[illegible].040	1.00633E+007	VV	0.069	1	1.623	Chloroform
9.326	9411885	VV	0.081	1	1.670	1,1,1-Trichloroethane
9.589	1.64922E+007	VV	0.076	1	1.869	Carbon Tetracl ; 11Diclpropene
9.903	3954459	VV	0.064	1	1.783	1,2-Dichloroethane
10.876	8438978	VV	0.059	1	1.413	Trichloroethene
11.189	5375681	VV	0.067	1	1.871	1,2-Dichloropropane
11.369	1586437	VV	0.061	1	1.901	Dibromomethane
11.608	4387929	VV	0.064	1	1.825	Bromodichloromethane
12.269	3571917	VV	0.058	1	1.707	c-1,3-Dichloropropene
13.087	2103179	VV	0.049	1	1.819	t-1,3-Dichloropropene
13.236	1.29977E+007	VV	0.061	1-I	5.000	* Bromochloropropane *
13.355	4199524	VV	0.065	1	1.753	1,1,2-Trichloroethane
13.606	1.16923E+007	VV	0.058	1	1.942	Tetraclethane ; 13Diclpropane
13.958	1892117	VV	0.058	1	1.955	Dibromochloromethane
14.126	1319196	VV	0.070	1	1.930	1,2-Dibromoethane (EDB)
14.874	2677499	VV	0.049	1	1.910	Chlorobenzene
14.993	6778658	VV	0.061	1	1.701	1,1,1,2-Tetrachloroethane
16.121	636781	VV	0.058	1	2.007	Bromoform
16.518	4066350	VF	0.053	1	4.994	$ 1,4-Dichlorobutane $
16.849	2347933	MF	0.049	1	3.696	Bromobenzene ; 123triclpropane
16.859	2161036	FM	0.051	1	2.039	1,1,2,2-Tetrachloroethane
17.151	3008556	FV	0.053	1	1.893	2-Chlorotoluene
17.316	3130810	VV	0.053	1	1.885	4-Chlorotoluene
18.308	3738725	VV	0.050	1	1.855	1,3-Dichlorobenzene
18.444	4309153	VV	0.053	1	1.867	1,4-Dichlorobenzene
[illegible].022	3245446	VV	0.053	1	1.932	1,2-Dichlorobenzene
[illegible].235	196836	VV	0.065	1	2.092	1,2-Dibromo-3-chloropropane
21.556	3771318	PV	0.053	1	1.788	1,2,4-Trichlorobenzene
21.846	8068995	VV	0.061	1	1.621	Hexachlorobutadiene
22.320	3495002	VV	0.056	1	1.870	1,2,3-Trichlorobenzene

User Modified



Data File Name : C:\HPCHEM\1\DATA\100396\047F0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : VSTD002
Real Time Bar Code:
Acquired on : 04 Oct 96 07:52 AM
Report Created on: 04 Oct 96 09:29 AM
Last Recalib on : 04 Oct 96 09:29 AM
Multiplier : 1

Page Number : 1
Vial Number : 47
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

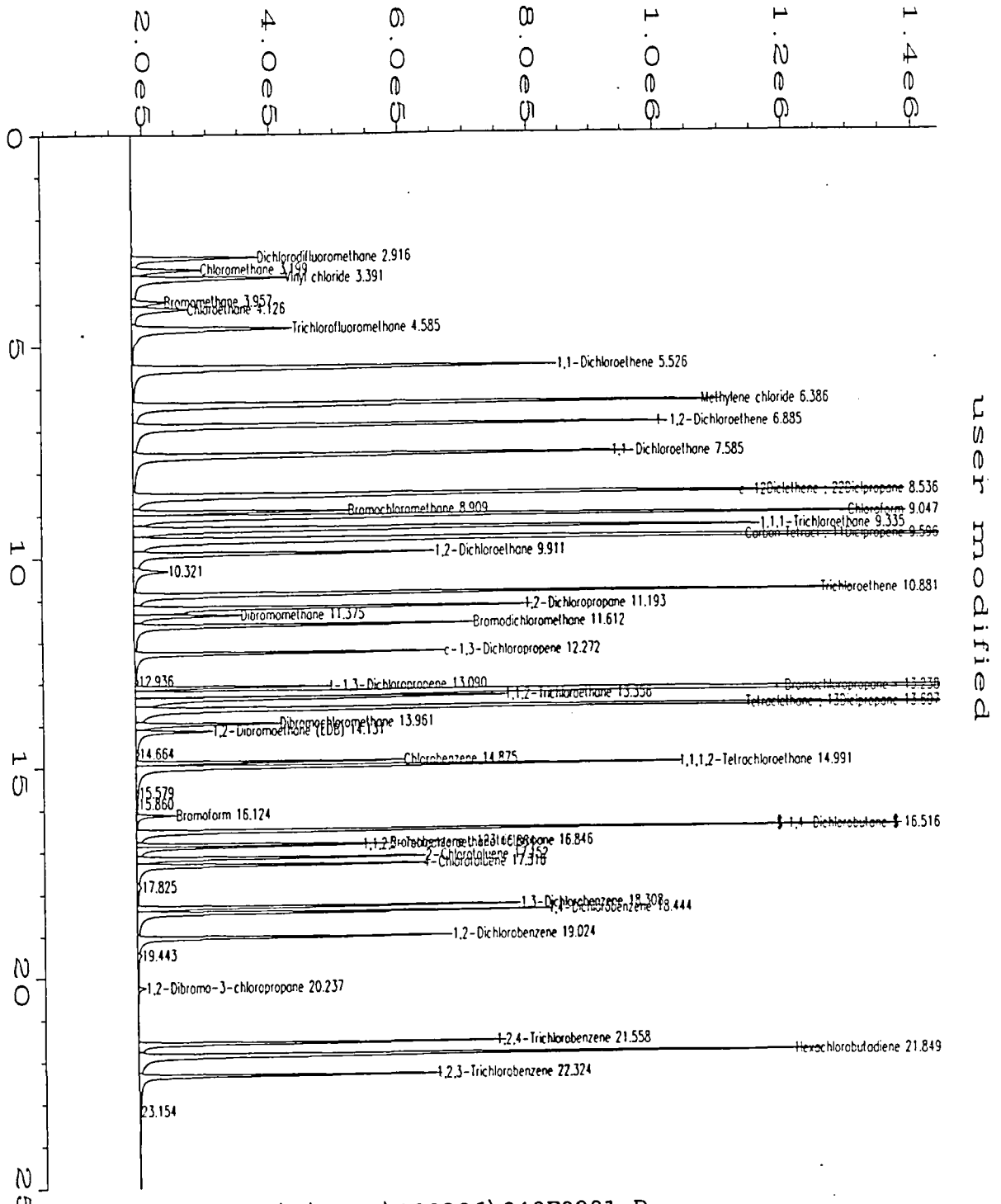
Internal Standard Report

Data File Name	: C:\HPCHEM\1\DATA\100396\048F0201.D		
Operator	: RNP	Page Number	: 1
Instrument	: HALL/PID	Vial Number	: 48
Sample Name	: VSTD001	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 04 Oct 96 08:24 AM	Instrument Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:30 AM	Analysis Method	: 502_HAL.MTH
Last Recalib on	: 04 Oct 96 09:29 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	: 5

Sig. 1 in C:\HPCHEM\1\DATA\100396\048F0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.916	923312	VV	0.072	1	1.355	Dichlorodifluoromethane
3.199	544899	VV	0.073	1	0.630	Chloromethane
3.391	1495508	VV	0.090	1	0.757	Vinyl chloride
3.957	297769	VV	0.088	1	0.664	Bromomethane
4.126	643658	VV	0.103	1	0.746	Chloroethane
4.585	1780213	VV	0.108	1	0.882	Trichlorofluoromethane
5.526	3888653	VV	0.090	1	0.799	1,1-Dichloroethene
6.386	4871525	VV	0.083	1	0.879	Methylene chloride
6.885	4219216	VV	0.078	1	0.749	t-1,2-Dichloroethene
7.585	4186365	VV	0.081	1	0.735	1,1-Dichloroethane
8.536	5779451	VV	0.076	1	1.131	c-12Diclethene ; 22Diclpropane
[illegible]909	1312972	VV	0.060	1	0.800	Bromochloromethane
[illegible].047	5639492	VV	0.074	1	0.689	Chloroform
9.335	5043653	VV	0.079	1	0.704	1,1,1-Trichloroethane
9.596	9149783	VV	0.073	1	1.025	Carbon Tetracl ; 11Diclpropene
9.911	2043484	VV	0.065	1	0.745	1,2-Dichloroethane
10.881	4301893	VV	0.060	1	0.585	Trichloroethene
11.193	2792831	VV	0.070	1	0.781	1,2-Dichloropropane
11.375	743740	VV	0.064	1	0.835	Dibromomethane
11.612	2184868	VV	0.062	1	0.781	Bromodichloromethane
12.272	1769173	VV	0.056	1	0.702	c-1,3-Dichloropropene
13.090	967403	VV	0.048	1	0.765	t-1,3-Dichloropropene
13.238	1.31485E+007	VV	0.063	1-I	5.000	* Bromochloropropane *
13.356	2577086	VV	0.065	1	0.788	1,1,2-Trichloroethane
13.607	6527815	VV	0.058	1	1.072	Tetraclethane ; 13Diclpropane
13.961	893263	VV	0.059	1	0.879	Dibromochloromethane
14.131	630625	VV	0.074	1	0.862	1,2-Dibromoethane (EDB)
14.875	1295825	VV	0.049	1	0.807	Chlorobenzene
14.991	3491878	VV	0.062	1	0.682	1,1,1,2-Tetrachloroethane
16.124	238439	VV	0.057	1	1.145	Bromoform
16.516	3966901	VF	0.052	1	4.816	$ 1,4-Dichlorobutane $
16.846	1265777	MF	0.053	1	1.631	Bromobenzene ; 123triclpropane
16.864	975763	FM	0.046	1	0.861	1,1,2,2-Tetrachloroethane
17.152	1545382	FV	0.052	1	0.831	2-Chlorotoluene
17.316	1655814	VV	0.055	1	0.815	4-Chlorotoluene
18.308	1889722	VV	0.049	1	0.785	1,3-Dichlorobenzene
18.444	2247706	VV	0.053	1	0.765	1,4-Dichlorobenzene
19.024	1658194	VV	0.052	1	0.825	1,2-Dichlorobenzene
[illegible].237	73320	VV	0.083	1	1.363	1,2-Dibromo-3-chloropropane
[illegible].558	1882099	PV	0.052	1	0.708	1,2,4-Trichlorobenzene
21.849	4202303	VV	0.061	1	0.640	Hexachlorobutadiene
22.324	1612696	VV	0.053	1	0.665	1,2,3-Trichlorobenzene

User Modified



Data File Name	: C:\HPCHEM\1\DATA\100396\048F0201.D	Page Number	: 1
Operator	: RNP	Vial Number	: 48
Instrument	: HALL/PID	Injection Number	: 1
Sample Name	: VSTD001	Sequence Line	: 2
Run Time Bar Code:		Instrument Method	: 502_HAL.MTH
Acquired on	: 04 Oct 96 08:24 AM	Analysis Method	: 502_HAL.MTH
Report Created on	: 04 Oct 96 09:30 AM	Sample Amount	: 0
Last Recalib on	: 04 Oct 96 09:29 AM	ISTD Amount	: 5
Multiplier	: 1		

Continuing Calibration Report

Method: **6230D**

ICal Date: 100396
CCal Date 100396

	Curve	QCCK	%D
Benzene	1.265	1.247	1.4
Bromobenzene	0.630	0.575	9.1
Bromochloromethane	0.840	0.904	-7.4
Bromodichloromethane	1.316	1.361	-3.4
Bromoform	0.226	0.252	-10.9
Bromomethane	0.214	0.210	1.6
n-Butylbenzene	1.502	1.380	8.5
sec-Butylbenzene	0.896	0.829	7.7
tert-Butylbenzene	0.838	0.787	6.4
Carbon tetrachloride	4.471	4.761	-6.3
Chlorobenzene	0.792	0.825	-4.1
Chloroethane	0.363	0.357	1.6
Chloroform	2.773	2.779	-0.2
Chloromethane	0.379	0.369	2.8
2-Chlorotoluene	0.501	0.889	-27.9
4-Chlorotoluene	0.907	0.897	1.1
Dibromochloromethane	0.575	0.604	-5.0
1,2-Dibromo-3-chloropropane	0.075	0.077	-2.4
1,2-Dibromoethane (EDB)	0.402	0.425	-5.6
Dibromomethane	0.488	0.517	-5.8
1,2-Dichlorobenzene	0.939	0.937	0.3
1,3-Dichlorobenzene	1.098	1.103	-0.5
1,4-Dichlorobenzene	1.212	1.203	0.7
Dichlorodifluoromethane	0.602	0.595	1.1
1,1-Dichloroethane	2.289	2.380	-3.9
1,2-Dichloroethane	1.149	1.181	-2.7
1,1-Dichloroethene	2.209	2.289	-3.5
cis-1,2-Dichloroethene	3.131	3.306	-5.4
trans-1,2-Dichloroethene	2.328	2.418	-3.8
1,2-Dichloropropane	1.543	1.570	-1.8
2,2-Dichloropropane	4.471	4.761	-6.3
cis-1,3-Dichloropropane	1.062	1.102	-3.7
trans-1,3-Dichloropropane	0.648	0.684	-5.4
Diisopropyl ether	0.333	0.343	-2.9
Ethylbenzene	1.129	1.094	3.1
Hexachlorobutadiene	2.198	1.874	15.9
Isopropylbenzene	0.809	0.773	4.5
p-Isopropyltoluene	0.920	1.763	-62.8
Methyl-tert butyl ether	1.311	1.312	-0.1
Methylene Chloride	1.997	2.088	-4.5
Naphthalene	0.331	0.295	11.4
n-Propylbenzene	1.059	0.996	6.2
Styrene	2.138	2.060	3.7
1,1,1,2-Tertrachloroethane	1.899	1.960	-3.2
1,1,2,2-Tertrachloroethane	0.685	0.797	-15.0

Continuing Calibration Report

Tetrachloroethene	3.144	3.260	-3.6
Toluene	1.205	1.174	2.7
1,2,3-Trichlorobenzene	0.942	0.847	10.6
1,2,4-Trichlorobenzene	1.067	0.953	11.3
1,1,1-Trichloroethane	2.705	2.783	-2.9
1,1,2-Trichloroethane	1.147	1.093	4.9
Trichloroethene	2.373	2.511	-5.7
Trichlorofluromethane	0.974	0.976	-0.2
1,2,3-Trichloropropane	0.630	0.575	9.1
1,2,4-Trimethylbenzene	1.176	1.112	5.6
1,3,5-Trimethylbenzene	2.628	2.499	5.0
Vinyl Chloride	0.835	0.848	-1.5
m/p-Xylene	2.562	2.461	4.0
o-Xylene	2.138	2.060	3.7

Internal Standard Report

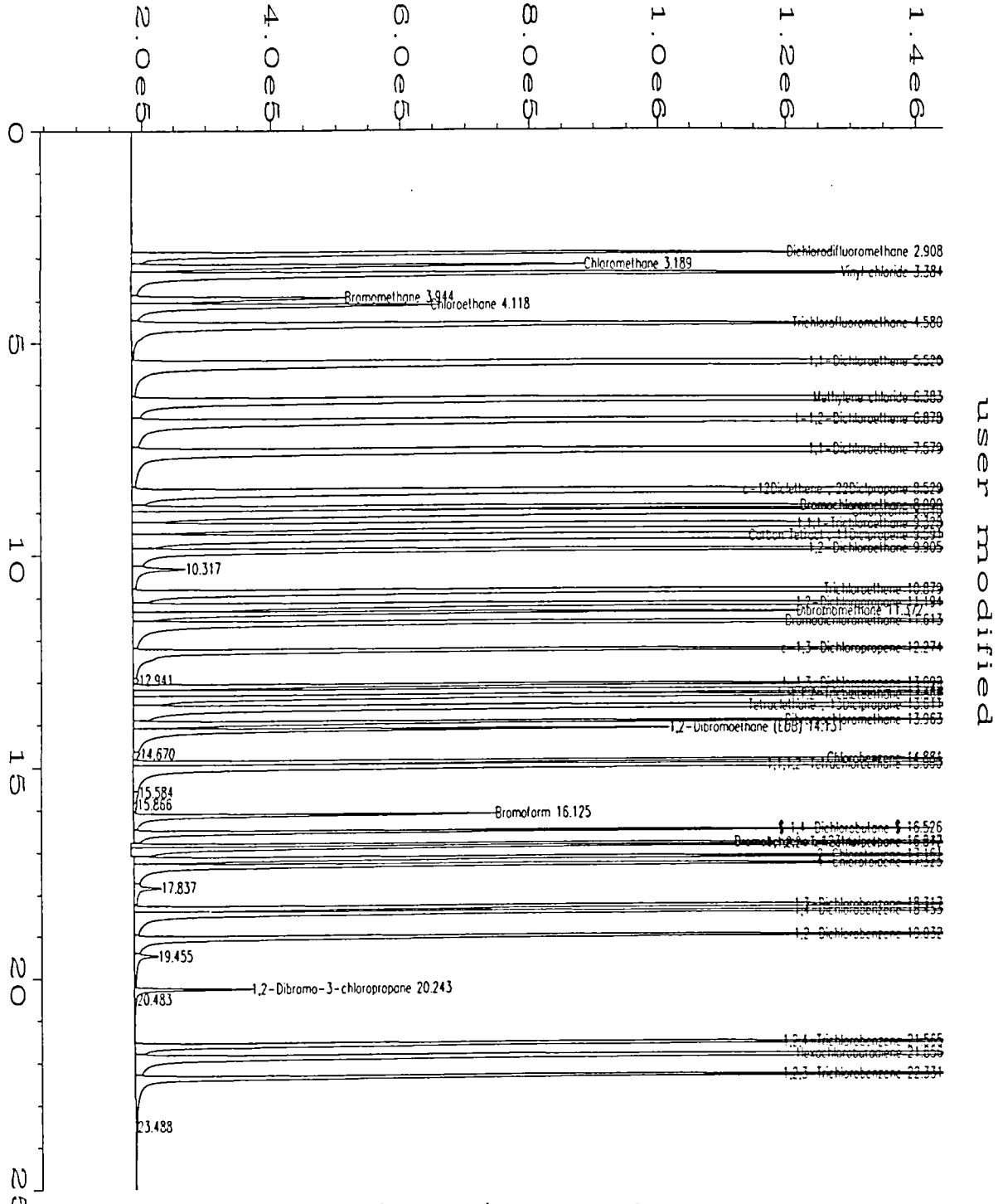
Data File Name : C:\HPCHEM\1\DATA\100396\049F0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : QCCK005
Run Time Bar Code:
Acquired on : 04 Oct 96 08:55 AM
Report Created on: 04 Oct 96 09:31 AM
Last Recalib on : 04 Oct 96 09:30 AM
Multiplier : 1

Page Number : 1
Vial Number : 49
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 1 in C:\HPCHEM\1\DATA\100396\049F0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
2.908	5124556	VV	0.072	1	4.978	Dichlorodifluoromethane
3.189	3174526	VV	0.068	1	4.575	Chloromethane
3.384	7305226	VV	0.084	1	5.143	Vinyl chloride
3.944	1811656	VV	0.084	1	4.529	Bromomethane
4.118	3077824	VV	0.096	1	4.881	Chloroethane
4.580	8404438	VV	0.092	1	5.050	Trichlorofluoromethane
5.520	1.97106E+007	VV	0.094	1	5.243	1,1-Dichloroethene
6.383	1.79765E+007	VV	0.082	1	5.281	Methylene chloride
6.878	2.08177E+007	VV	0.078	1	5.337	t-1,2-Dichloroethene
7.579	2.04945E+007	VV	0.083	1	5.377	1,1-Dichloroethane
8.529	2.84622E+007	VV	0.075	1	11.133	c-12Diclethene ; 22Diclpropane
[illegible].900	7784807	VV	0.066	1	5.302	Bromochloromethane
[illegible].040	2.39311E+007	VV	0.072	1	5.463	Chloroform
9.328	2.39628E+007	VV	0.083	1	5.369	1,1,1-Trichloroethane
9.591	4.09909E+007	VV	0.077	1	12.261	Carbon Tetracl ; 11Diclpropene
9.905	1.01661E+007	VV	0.065	1	5.275	1,2-Dichloroethane
10.879	2.16247E+007	VV	0.061	1	5.564	Trichloroethene
11.194	1.35185E+007	VV	0.067	1	5.262	1,2-Dichloropropane
11.372	4448940	VV	0.064	1	5.167	Dibromomethane
11.613	1.17195E+007	VV	0.062	1	5.167	Bromodichloromethane
12.274	9487919	VV	0.058	1	5.196	c-1,3-Dichloropropene
13.092	5888740	VV	0.050	1	5.117	t-1,3-Dichloropropene
13.242	1.37765E+007	VV	0.062	1-I	5.000	* Bromochloropropane *
13.362	9410398	VV	0.059	1	5.368	1,1,2-Trichloroethane
13.611	2.80732E+007	VV	0.058	1	11.807	Tetraclethane ; 13Diclpropane
13.963	5204402	VV	0.059	1	5.174	Dibromochloromethane
14.131	3660055	VV	0.065	1	5.222	1,2-Dibromoethane (EDB)
14.881	7103096	VV	0.050	1	5.219	Chlorobenzene
15.000	1.68729E+007	VV	0.060	1	5.427	1,1,1,2-Tetrachloroethane
16.125	2170501	VV	0.059	1	5.007	Bromoform
16.526	4324727	VF	0.054	1	5.011	$ 1,4-Dichlorobutane $
16.847	6858657	MF	0.054	1	12.265	Bromobenzene ; 123triclpropane
16.872	4950137	FM	0.046	1	4.491	1,1,2,2-Tetrachloroethane
17.161	7654410	FV	0.053	1	5.033	2-Chlorotoluene
17.325	7720356	VV	0.052	1	5.096	4-Chlorotoluene
18.317	9498813	VV	0.050	1	5.077	1,3-Dichlorobenzene
18.453	1.0361E+007	VV	0.052	1	5.183	1,4-Dichlorobenzene
19.032	8064348	VV	0.050	1	5.090	1,2-Dichlorobenzene
[illegible].243	662417	VV	0.054	1	4.584	1,2-Dibromo-3-chloropropane
[illegible].565	8203705	PV	0.051	1	4.460	1,2,4-Trichlorobenzene
21.856	1.61396E+007	VV	0.058	1	4.269	Hexachlorobutadiene
22.331	7292055	VV	0.052	1	4.527	1,2,3-Trichlorobenzene

User Modified



user modified

Data File Name : C:\HPCHEM\1\DATA\100396\049F0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : QCCK005
Run Time Bar Code:
Acquired on : 04 Oct 96 08:55 AM
Report Created on: 04 Oct 96 09:31 AM
Last Recalib on : 04 Oct 96 09:30 AM
Multiplier : 1

Page Number : 1
Vial Number : 49
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_HAL.MTH
Sample Amount : 0
ISTD Amount : 5

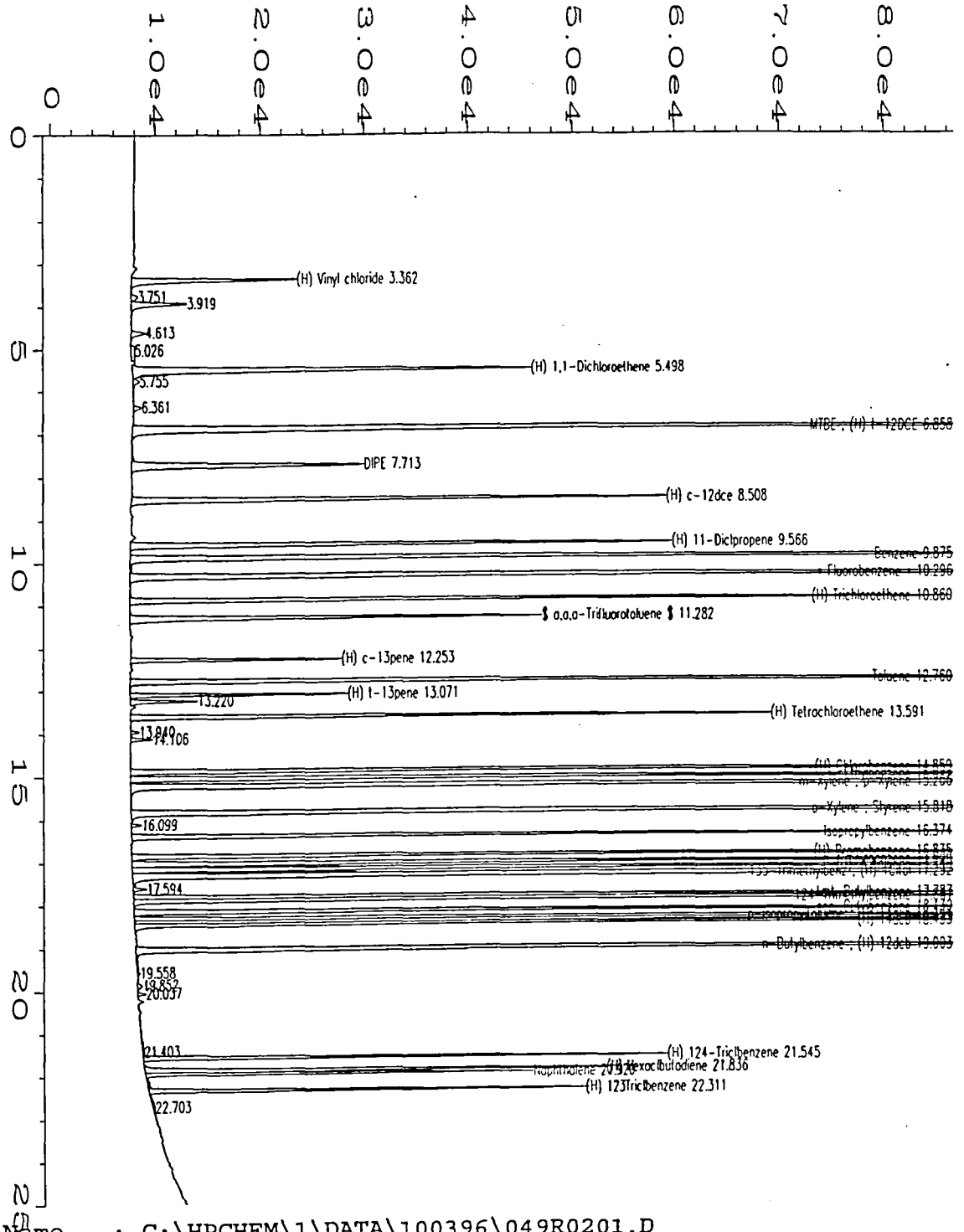
Internal Standard Report

Data File Name : C:\HPCHEM\1\DATA\100396\049R0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : QCCK005
Run Time Bar Code:
Acquired on : 04 Oct 96 08:55 AM
Report Created on: 04 Oct 96 09:43 AM
Last Recalib on : 04 Oct 96 09:42 AM
Multiplier : 1

Page Number : 1
Vial Number : 49
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

Sig. 2 in C:\HPCHEM\1\DATA\100396\049R0201.D

Ret Time	Area	Type	Width	Ref#	µg/L	Name
3.362	75373	PV	0.072	1	4.931	(H) Vinyl chloride
5.498	214464	VV	0.087	1	4.996	(H) 1,1-Dichloroethene
6.858	485502	BV	0.073	1	9.863	MTBE ; (H) t-12DCE
7.713	126969	VV	0.089	1	5.135	DIPE
8.508	210107	BV	0.064	1	4.951	(H) c-12dce
9.566	208001	VV	0.062	1	4.807	(H) 11-Diclpropene
9.875	461193	PV	0.062	1	4.888	Benzene
10.296	591877	VV	0.059	1-I	5.000	* Fluorobenzene *
10.860	281885	VV	0.056	1	4.855	(H) Trichloroethene
11.282	163185	PV	0.064	1	5.008	$ a,a,a-Trifluorotoluene $
12.253	64649	BV	0.051	1	4.854	(H) c-13pene
12.760	434145	PV	0.052	1	4.849	Toluene
[illegible].071	61480	PV	0.047	1	4.881	(H) t-13pene
[illegible].591	205835	VV	0.052	1	4.789	(H) Tetrachloroethene
14.859	379652	BV	0.048	1	4.876	(H) Chlorobenzene
15.027	404787	VV	0.050	1	4.823	Ethylbenzene
15.206	910510	VV	0.051	1	9.635	m-Xylene ; p-Xylene
15.818	762110	PV	0.053	1	9.687	o-Xylene ; Styrene
16.374	286084	BV	0.052	1	4.780	Isopropylbenzene
16.835	338132	BV	0.047	1	4.888	(H) Bromobenzene
17.009	368310	VV	0.050	1	4.716	n-Propylbenzene
17.140	382120	VV	0.049	1	4.785	(H) 2Cltoluene
17.292	924434	VV	0.058	1	9.542	135-Trimethylbenz ; (H) 4Cltol
17.787	291076	VV	0.051	1	4.700	tert-Butylbenzene
17.861	411404	VV	0.049	1	4.741	124-Trimethylbenzene
18.130	306715	VV	0.054	1	4.635	sec-Butylbenzene
18.297	326046	VV	0.045	1	9.592	p-Isopropyltoluene ; (H) 13dcb
18.433	306376	VV	0.045	1	4.817	(H) 14dcb
19.003	510346	VV	0.051	1	9.268	n-Butylbenzene ; (H) 12dcb
21.545	150940	VV	0.047	1	4.448	(H) 124-Triclbenzene
21.836	152563	PV	0.054	1	4.124	(H) Hexaclbutadiene
21.920	109154	VV	0.045	1	4.545	Naphthalene
22.311	126347	VV	0.047	1	4.470	(H) 123Triclbenzene



Data File Name : C:\HPCHEM\1\DATA\100396\049R0201.D
Operator : RNP
Instrument : HALL/PID
Sample Name : QCCK005
Real Time Bar Code:
Acquired on : 04 Oct 96 08:55 AM
Report Created on: 04 Oct 96 09:43 AM
Last Recalib on : 04 Oct 96 09:42 AM
Multiplier : 1

Page Number : 1
Vial Number : 49
Injection Number : 1
Sequence Line : 2
Instrument Method: 502_HAL.MTH
Analysis Method : 502_PID.MTH
Sample Amount : 0
ISTD Amount : 5

& MILLER, INC.
Environmental Services
A Heidemij Company

LABORATORY TASK ORDER

Task Order No.: 20796

Geraghty & Miller Office: Raleigh, NC Phone: (919) 571-1662 Date: 9/3/96
Address: 2840 Plaza Place, Suite 350 Project Number: NC0360.211
Raleigh NC 27612 Laboratory Reporting Level: ☐ I ☒ II ☐ III ☐ IV
Project Name: NCDOT No. 70 Location: Lumberton NC
Laboratory: Paradigm Analytical Phone: (910) 350-1903 Contact: Mark Randall
Lab Provided Sample Containers? ☒ Yes ☐ No Date Required: 9/4/96 Ship To: G&M Raleigh
Estimated Date Of Sample Receipt By Laboratory: 9/7/96 Report Due: 9/21/96
Reports Delivered To: G&M Raleigh, NC Number Of Reports: 1
Work Description: Sample Analysis of Leaphobe Soil and GW Samples
Send Invoice To: G&M Raleigh NC

PHYSICAL PROPERTIES	# Water	Method	Det. Limit	# Soil	Method	Det. Limit	NON-METALLICS	# Water	Method	Det. Limit	# Soil	Method	Det. Limit
pH							Acidity						
Spec. Cond.							Alkalinity (Total)						
Hardness (total)							Carbonate						
TDS							Bicarbonate						
TSS							Bromide						
Temperature							Chloride						
Turbidity							Cyanide						
Ignitability							Fluoride						
Corrosivity							Ammonia						
Reactivity							Nitrate						
E.P. Tox. Extraction							TKN						
TCLP Extraction							Nitrite						
E.P. Tox. Complete							Phosphorus						
TCLP Complete							Silica						
METALS*							Sulfate						
Aluminum							Sulfide						
Antimony							Surfactants (MBAS)						
Arsenic							ORGANICS						
Barium							BOD						
Beryllium							COD						
Cadmium							Oil & Grease						
Calcium							TOC						
Chromium							TOX						
Hex Chromium							TRPH						
Copper							Purg. Halocarbons*						
Iron							Non-Halogenated VOCs*						
Lead							Purgeable Arom.*						
Magnesium							Phenols*						
Manganese							Pesticides/PCBs*						
Mercury							PNAs*						
Nickel							Org. Phos. Pest.*						
Potassium							Dioxins						
Selenium							Chlor-Herb.* VOC'S	RC	8021	1.0 ppb			
Silver							Volatile Organics*	MQL	8230D	0.5 ppb	5 MQL	8021	1.0 ppb
Sodium							Semi Volatile Organics*						
Thallium							APPENDIX IX*						
Tin							RADIONUCLIDES						
Vanadium							Gross Alpha						
Zinc							Gross Beta						
Priority Pollutant Metals*							Radium 226						
TCL (HSL) Metals*							Radium 228						

* Metals are Total Metals Unless Specified as Dissolved Under Special Instructions. * Attach Table of Elements or Compounds to be Analyzed. * Includes All Organic and Inorganic Compounds.

Special Instructions Or Other: RC Samples for Soil and GW Samples Include: (1) Trip Blank (2) Equipment Blank (3) Field Duplicate (4) MS, (5) MSD. Send separate coolers for Soils and GW Sample Containers 2 Sets of Trip blanks (one for each) include Trip blanks

G&M Project Manager Signature: [signature] Date: 9/-/96 G&M QA Officer Signature: [signature] Date: 9-3-96
Laboratory Acceptance: _____ Date: _____

G&M Form 32

No Changes

LABORATORY TASK ORDER AMENDMENTS

Required Change: _____

G&M Representative Signature: _____ Date: _____

RETURN YELLOW COPY TO PROJECT MANAGER OR QUALITY ASSURANCE OFFICER — ATTACH PINK COPY TO CHAIN OF CUSTODY FORM

FedEx USA Airbill

FedEx Retrieval C
424 SOC 14909609 S1

From

Date 9/20/96 Sender's FedEx Account Number

Sender's Name Fred Rash Phone (919) 571 1662

Company Geraghty & Miller Dept./Floor Suite/Room 350

Address 2840 Plaza Pl

City Raleigh State NC Zip 27612

Your Internal Billing Reference Information NC0360.211

To

Recipient's Name PATT BURNS Phone (910-350-1903

Company PARADIGM ANALYTICAL LABS Dept./Floor Suite/Room

Address 2627 NORTHCHASE PKWY SE

City WILMINGTON State NC Zip 28405

For "HOLD" Service check here
Weekday Saturday

For Saturday Delivery check here
X Extra Charge. Not available at all locations. Not available with FedEx First Overnight. FedEx Standard Overnight.

Service
X FedEx Priority Overnight
FedEx Standard Overnight
FedEx Govt. Overnight
FedEx Overnight Freight
FedEx 2Day Freight
NEW FedEx First Overnight
Higher rates apply

Packaging
FedEx Letter
FedEx Pak
FedEx Box
FedEx Tube
X

Special Handling
Does this shipment contain dangerous goods?
Yes
Dry Ice
Yes
Cargo Aircraft

Payment
Bill to: Sender Recipient X Third Party Credit Card
Obtain FedEx Account

FedEx Account No 1811-4189-1

Credit Card No. Exp. Date

Total Packages Total Weight [redacted] Total Charges

Credit Card

CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY See SERVICE

Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify Federal Express from any resulting claim.

232

WCSL 0995
Rev. Date 7/95 • PART #147381
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FedEx USA Airbill Tracking Number 7954591665

FedEx Retrieval C
453 SOC 14909609 S1

From

Date 9/20/96 Sender's FedEx Account Number

Sender's Name Fred Rash Phone (919) 571 1662

Company Geraghty & Miller Dept./Floor Suite/Room 350

Address 2840 Plaza Pl

City Raleigh State NC Zip 27612

Your Internal Billing Reference Information NC0360.211

To

Recipient's Name PATT BURNS Phone (910-350-1903

Company PARADIGM ANALYTICAL LABS Dept./Floor Suite/Room

Address 2627 NORTHCHASE PKWY SE

City WILMINGTON State NC Zip 28405

For "HOLD" Service check here
Weekday Saturday

For Saturday Delivery check here
X Extra Charge. Not available at all locations. Not available with FedEx First Overnight. FedEx Standard Overnight.

Service
X FedEx Priority Overnight
FedEx Standard Overnight
FedEx Govt. Overnight
FedEx Overnight Freight
FedEx 2Day Freight
NEW FedEx First Overnight
Higher rates apply

Packaging
FedEx Letter
FedEx Pak
FedEx Box
FedEx Tube
X

Special Handling
Does this shipment contain dangerous goods?
Yes
Dry Ice
Yes
Cargo Aircraft

Payment
Bill to: Sender X Recipient Third Party Credit Card
Obtain FedEx Account

FedEx Account No 1811-4189-1

Credit Card No. Exp. Date

Total Packages Total Weight [redacted] Total Charges

Credit Card

CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY See SERVICE

Release Signature

232

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GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. 20796

CHAIN-OF-CUSTODY RECORD

Project Number NC0360.211

Project Location Lumberton NC

Laboratory Paradigm

Sampler(s)/Affiliation MPD-GEM

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	6230 D 40 ml VOA HCl Preserved	Temp Blank									TOTAL
GW-1	L	9/20/96 840		4										4
GW-2	L	9/20/96 855		4										4
GW-3	L	9/20/96 915		4										4
GW-4	L	9/20/96 930		4										4
GW-5	L	9/20/96 950		4										4
GW-6	L	9/20/96 1015		4										4
SW-1	L	9/20/96 1100		4										4
EB-01-GW	L	9/20/96 1030		4										4
TB-01 9/20/96	L	9/20/96		4										4
RCP-01-GW	L	9/20/96		4										4
GW-3MS	L	9/20/96 915		4										4
GW-3MSD	L	9/20/96 915		4										4
Temp Blank					1									1
													Total No. of Bottles/ Containers	49

Sample Code: L = Liquid; S = Solid; A = Air

Relinquished by: Michael Durst	Organization: Geraghty & Miller	Date 9/20/96	Time 1700	Seal Intact? Yes No N/A
Received by: Sugey Dikeman	Organization: Paradigm	Date 9/21/96	Time 10:51	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks: Fedex # 7954591665

Temp = 4.0°C

Delivery Method: ☐ In Person ☒ Common Carrier Fed X (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

Southprint 91-1768

& MILLER, INC.
Environmental Services

Laboratory Task Order No. 20796

CHAIN-OF-CUSTODY RECORD

Project Number NC0360.211

Project Location Lumberton NC

Laboratory Paradigm

Sampler(s)/Affiliation MPD-G&M

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	8021 4 oz Amber	8021 40 ml VOA HCl Preserved	Temp Blank			149-40				TOTAL
SS-1-4.5	S	9/19/96 1455		1									1
SS-2-4	S	9/19/96 1515		1									1
SS-3-4	S	9/19/96 1530		1									1
SS-4-4	S	9/19/96 1550		1									1
SS-5-4	S	9/19/96 1615		1									1
SS-6-4	S	9/19/96 1630		1									1
REP-01-SS	S	9/19/96		1									1
TB-01 9/19/96	L	9/19/96			3								3
EB-01-SS	L	9/19/96 1600			3								3
Temp Blank						1							1

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 14

Relinquished by: Michael Dwyer	Organization: Geraghty & Miller	Date 9/20/96 Time 1700	Seal Intact? Yes No N/A
Received by: Mal Robb	Organization: Paradigm	Date 9/20/96 Time 10:55	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	

Special Instructions/Remarks: Fed X # 7954591374
Take MS, MSD out of SS-5-4 Temp: 4°C

Delivery Method: ☐ In Person ☒ Common Carrier Fed X (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

Mr. Fred Rash
Geraghty & Miller
2840 Plaza Place
Raleigh,NC 27612

Date 12-02-96

RECEIVED
DEC - 3 1996
G & M RALEIGH

Report Number: G149-62

Client Project Number: NC0360.212
Project Location: Lumberton, NC Site #70
LTO Number: 20174

Dear Mr. Rash :

Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical service projects. We look forward to working with you again on any additional needs which you may have.

Sincerely,

Paradigm Analytical Laboratories

Laboratory Director
Mark Randall

CASE NARRATIVE FOR PROJECTS 149-62

LTO # 20174

SURROGATES:

149-62 - 8260B, 601, 602

All within acceptance criteria

BLANKS:

149-62 - 8260B, 601, 602

All blanks - all compounds BQL

MATRIX SPIKES/MATRIX SPIKE DUPLICATES:

149-62

8260B MS/MSD
2 compound failed acceptance criteria for recovery.
3 compounds failed RPD acceptance criteria (30%) .

8260B LCS
All compounds within acceptance criteria.

601 MS/MSD
2 compound failed acceptance criteria for recovery.
6compound failed RPD acceptance criteria (30%).

601 LCS
All compounds within acceptance criteria.

602 MS/MSD
0 compounds failed acceptance criteria for recovery.
1 compounds failed RPD acceptance criteria.

602 LCS
All compounds within acceptance criteria.

HOLDING TIME:

All samples analyzed within holding time

DILUTIONS:

See attached

COMMENTS:

All reported GC results were qualitatively confirmed by GC/MS.

PAL Proj#	lient Sample I	Client	Lab ID	Report
G149-62	70MW-1	149	17308	8260B
G149-62	70MW-2	149	17309	601
G149-62	70MW-2	149	17309	602
G149-62	70MW-3	149	17310	601
G149-62	70MW-3	149	17310	602
G149-62	70MW-4	149	17311	601
G149-62	70MW-4	149	17311	602
G149-62	70MW-5	149	17312	601
G149-62	70MW-5	149	17312	602
G149-62	70MW-6	149	17313	601
G149-62	70MW-6	149	17313	602
G149-62	70MW-6MS	149	17314	601
G149-62	70MW-6MS	149	17314	602
G149-62	70MW-6MS	149	17315	601
G149-62	70MW-6MS	149	17315	602
G149-62	70DW-1	149	17316	8260B
G149-62	70REP-01-G	149	17317	601
G149-62	70REP-01-G	149	17317	602
G149-62	70REP-02-G	149	17318	8260B
G149-62	70EB-01-G	149	17319	601
G149-62	70EB-01-G	149	17319	602
G149-62	70EB-02-G	149	17320	8260B
G149-62	70TB-01-(11/	149	17321	601
G149-62	70TB-01-(11/	149	17321	602
G149-62	70TB-02-(11/	149	17322	8260B

Date Printed 12/2/96

SAMPLES AND ASSOCIATED BLANK

SAMPLE ID	ASSOCIATED BLANK		
	601	602	8260B
17308			VBLK1112596
17309	VBLK3112596	VBLK3112596	
17310	VBLK3112596	VBLK3112596	
17311	VBLK3112796	VBLK31127/96	MCB 1-13-97
17312	VBLK3112796	VBLK31127/96	
17313	VBLK3112596	VBLK3112596	
17316			VBLK3112296
17317	VBLK3112596	VBLK3112596	
17318			VBLK1112596
17319	VBLK3112596	VBLK3112596	
17320			VBLK1112596
17321	VBLK3112596	VBLK3112596	
17322			VBLK1112296

DILUTIONS 149-62

SAMPLE ID	601	602
17309	4X	1X

SAMPLE ID	8260B
17308	50X
17318	80X

SURROGATE RECOVERY LIMITS

	6230D	8021	601	8260B	8270B	602
1,4-Dichlorobutane	85-120%	83-123%	87-113%			
Trifluorotoluene	85-122%	84-122%				82-112%
Bromofluorobenzene				68-132%		
1,2-Dichloroethane-d4				80-118%		
Toluene-d8				80-116%		
2-Fluorophenol					43-116%	
Phenol-d5					35-144%	
2,4,6-Tribromophenol					33-141%	
Nitrobenzene-d14					21-100%	
2-Fluorobiphenyl					10-94%	
p-Terphenyl-d14					10-123%	

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: 70MW-1
Client Project ID: NC0360.212
Lab Sample ID: 17308
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/22/96
Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	25	BQL
Acrolein	50	BQL
Acrylonitrile	50	BQL
Benzene	1	BQL
Bromobenzene	1	BQL
Bromochloromethane	1	BQL
Bromodichloromethane	1	BQL
Bromoform	1	BQL
Bromomethane	1	BQL
2-Butanone	25	BQL
n-Butylbenzene	1	BQL
sec-Butylbenzene	1	BQL
tert-Butylbenzene	1	BQL
Carbon disulfide	1	BQL
Carbon tetrachloride	1	BQL
Chlorobenzene	1	BQL
Chloroethane	1	**36** E
2-Chloroethyl vinyl ether	5	BQL
Chloroform	1	BQL
Chloromethane	1	BQL
2-Chlorotoluene	1	BQL
4-Chlorotoluene	1	BQL
Dibromochloromethane	1	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	1	BQL
1,2-Dibromoethane (EDB)	1	BQL
1,2-Dichlorobenzene	1	BQL
1,3-Dichlorobenzene	1	BQL
1,4-Dichlorobenzene	1	**6**
trans-1,4-Dichloro-2-butene	5	BQL
1,1-Dichloroethane	1	**170** E
1,1-Dichloroethene	1	**67** E
1,2-Dichloroethane	1	BQL
cis-1,2-Dichloroethene	1	**91** E
trans-1,2-dichloroethene	1	BQL
1,2-Dichloropropane	1	BQL
1,3-Dichloropropane	1	BQL
2,2-Dichloropropane	1	BQL
1,1-Dichloropropene	1	BQL
cis-1,3-Dichloropropene	1	BQL
trans-1,3-Dichloropropene	1	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	1	BQL
Ethylbenzene	1	BQL
Hexachlorobutadiene	1	BQL
2-Hexanone	5	BQL
Iodomethane	1	BQL
Isopropylbenzene	1	BQL

Flags: BQL = Below Quantitation Limit
E = Estimated value as concentration exceeds calibraton range.

Reviewed by: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: 70MW-1
Client Project ID: NC0360.212
Lab Sample ID: 17308
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/22/96
Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	1	BQL
Methylene chloride	5	BQL
4-Methyl-2-pentanone	5	BQL
Methyl-tert-butyl ether (MTBE)	1	1
Naphthalene	1	BQL
n-Propyl benzene	1	BQL
Styrene	1	BQL
1,1,1,2-Tetrachloroethane	1	BQL
1,1,2,2-Tetrachloroethane	1	BQL
Tetrachloroethene	1	BQL
Toluene	1	BQL
1,2,3-Trichlorobenzene	1	BQL
1,2,4-Trichlorobenzene	1	BQL
Trichloroethene	1	120 E
1,1,1-Trichloroethane	1	620 E
1,1,2-Trichloroethane	1	BQL
Trichlorofluoromethane	1	BQL
1,2,3-Trichloropropane	1	BQL
1,2,4-Trimethylbenzene	1	BQL
1,3,5-Trimethylbenzene	1	BQL
Vinyl acetate	1	BQL
Vinyl chloride	1	7
m-,p-Xylene	2	BQL
o-Xylene	1	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	10.2	102
1,2-Dichloroethane-d4	10.0	10.1	101
Toluene-d8	10.0	10.0	100

Comments:
All results are corrected for dilution.

Flags: BQL = Below Quantitation Limit
E = Estimated value as concentration exceeds calibraton range.

Reviewed by: mn

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: 70MW-1
Client Project ID: NC0360.212
Lab Sample ID: 17308
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/25/96
Analyzed By: WML
Date Collected: 11/12/96
Date Received: 11/14/96
Dilution: 50.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	1200	BQL
Acrolein	2500	BQL
Acrylonitrile	2500	BQL
Benzene	50	BQL
Bromobenzene	50	BQL
Bromochloromethane	50	BQL
Bromodichloromethane	50	BQL
Bromoform	50	BQL
Bromomethane	50	BQL
2-Butanone	1200	BQL
n-Butylbenzene	50	BQL
sec-Butylbenzene	50	BQL
tert-Butylbenzene	50	BQL
Carbon disulfide	50	BQL
Carbon tetrachloride	50	BQL
Chlorobenzene	50	BQL
Chloroethane	50	**48 J**
2-Chloroethyl vinyl ether	250	BQL
Chloroform	50	BQL
Chloromethane	50	BQL
2-Chlorotoluene	50	BQL
4-Chlorotoluene	50	BQL
Dibromochloromethane	50	BQL
1,2-Dibromo-3-chloropropane	250	BQL
Dibromomethane	50	BQL
1,2-Dibromoethane (EDB)	50	BQL
1,2-Dichlorobenzene	50	BQL
1,3-Dichlorobenzene	50	BQL
1,4-Dichlorobenzene	50	BQL
trans-1,4-Dichloro-2-butene	250	BQL
1,1-Dichloroethane	50	**300**
1,1-Dichloroethene	50	**83**
1,2-Dichloroethane	50	BQL
cis-1,2-Dichloroethene	50	**130**
trans-1,2-dichloroethene	50	BQL
1,2-Dichloropropane	50	BQL
1,3-Dichloropropane	50	BQL
2,2-Dichloropropane	50	BQL
1,1-Dichloropropene	50	BQL
cis-1,3-Dichloropropene	50	BQL
trans-1,3-Dichloropropene	50	BQL
Dichlorodifluoromethane	250	BQL
Diisopropyl ether (DIPE)	50	BQL
Ethylbenzene	50	BQL
Hexachlorobutadiene	50	BQL
2-Hexanone	250	BQL
Iodomethane	50	BQL
Isopropylbenzene	50	BQL

Reviewed by: [illegible]

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	70MW-1	Date Analyzed:	11/25/96
Client Project ID:	NC0360.212	Analyzed By:	WML
Lab Sample ID:	17308	Date Collected:	11/12/96
Lab Project ID:	G149-62	Date Received:	11/14/96
Matrix:	Water	Dilution:	50.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	50	BQL
Methylene chloride	250	BQL
4-Methyl-2-pentanone	250	BQL
Methyl-tert-butyl ether (MTBE)	50	BQL
Naphthalene	50	BQL
n-Propyl benzene	50	BQL
Styrene	50	BQL
1,1,1,2-Tetrachloroethane	50	BQL
1,1,2,2-Tetrachloroethane	50	BQL
Tetrachloroethene	50	BQL
Toluene	50	BQL
1,2,3-Trichlorobenzene	50	BQL
1,2,4-Trichlorobenzene	50	BQL
Trichloroethene	50	200
1,1,1-Trichloroethane	50	1200
1,1,2-Trichloroethane	50	BQL
Trichlorofluoromethane	50	BQL
1,2,3-Trichloropropane	50	BQL
1,2,4-Trimethylbenzene	50	BQL
1,3,5-Trimethylbenzene	50	BQL
Vinyl acetate	50	BQL
Vinyl chloride	50	BQL
m-,p-Xylene	100	BQL
o-Xylene	50	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	10	100
1,2-Dichloroethane-d4	10.0	9.6	96
Toluene-d8	10.0	10	100

Comments:

All results are corrected for dilution.

Reviewed by: MW

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: 70DW-1
Client Project ID: NC0360.212
Lab Sample ID: 17316
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/22/96
Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	25	BQL
Acrolein	50	BQL
Acrylonitrile	50	BQL
Benzene	1	BQL
Bromobenzene	1	BQL
Bromochloromethane	1	BQL
Bromodichloromethane	1	BQL
Bromoform	1	BQL
Bromomethane	1	BQL
2-Butanone	25	BQL
n-Butylbenzene	1	BQL
sec-Butylbenzene	1	BQL
tert-Butylbenzene	1	BQL
Carbon disulfide	1	BQL
Carbon tetrachloride	1	BQL
Chlorobenzene	1	BQL
Chloroethane	1	BQL
2-Chloroethyl vinyl ether	5	BQL
Chloroform	1	BQL
Chloromethane	1	BQL
2-Chlorotoluene	1	BQL
4-Chlorotoluene	1	BQL
Dibromochloromethane	1	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	1	BQL
1,2-Dibromoethane (EDB)	1	BQL
1,2-Dichlorobenzene	1	BQL
1,3-Dichlorobenzene	1	BQL
1,4-Dichlorobenzene	1	BQL
trans-1,4-Dichloro-2-butene	5	BQL
1,1-Dichloroethane	1	BQL
1,1-Dichloroethene	1	BQL
1,2-Dichloroethane	1	BQL
cis-1,2-Dichloroethene	1	BQL
trans-1,2-dichloroethene	1	BQL
1,2-Dichloropropane	1	BQL
1,3-Dichloropropane	1	BQL
2,2-Dichloropropane	1	BQL
1,1-Dichloropropene	1	BQL
cis-1,3-Dichloropropene	1	BQL
trans-1,3-Dichloropropene	1	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	1	BQL
Ethylbenzene	1	BQL
Hexachlorobutadiene	1	BQL
2-Hexanone	5	BQL
Iodomethane	1	BQL
Isopropylbenzene	1	BQL

Reviewed by: [illegible]

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	70DW-1	Date Analyzed:	11/22/96
Client Project ID:	NC0360.212	Analyzed By:	CKC
Lab Sample ID:	17316	Date Collected:	11/12/96
Lab Project ID:	G149-62	Date Received:	11/14/96
Matrix:	Water	Dilution:	1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	1	BQL
Methylene chloride	5	BQL
4-Methyl-2-pentanone	5	BQL
Methyl-tert-butyl ether (MTBE)	1	BQL
Naphthalene	1	BQL
n-Propyl benzene	1	BQL
Styrene	1	BQL
1,1,1,2-Tetrachloroethane	1	BQL
1,1,2,2-Tetrachloroethane	1	BQL
Tetrachloroethene	1	BQL
Toluene	1	BQL
1,2,3-Trichlorobenzene	1	BQL
1,2,4-Trichlorobenzene	1	BQL
Trichloroethene	1	BQL
1,1,1-Trichloroethane	1	BQL
1,1,2-Trichloroethane	1	BQL
Trichlorofluoromethane	1	BQL
1,2,3-Trichloropropane	1	BQL
1,2,4-Trimethylbenzene	1	BQL
1,3,5-Trimethylbenzene	1	BQL
Vinyl acetate	1	BQL
Vinyl chloride	1	BQL
m-,p-Xylene	2	BQL
o-Xylene	1	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	10	100
1,2-Dichloroethane-d4	10.0	10	100
Toluene-d8	10.0	9.5	95

Comments:

All results are corrected for dilution.

Reviewed by: MM

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	70REP-02-GW	Date Analyzed:	11/25/96
Client Project ID:	NC0360.212	Analyzed By:	WML
Lab Sample ID:	17318	Date Collected:	11/12/96
Lab Project ID:	G149-62	Date Received:	11/14/96
Matrix:	Water	Dilution:	1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	25	BQL
Acrolein	50	BQL
Acrylonitrile	50	BQL
Benzene	1	BQL
Bromobenzene	1	BQL
Bromochloromethane	1	BQL
Bromodichloromethane	1	BQL
Bromoform	1	BQL
Bromomethane	1	BQL
2-Butanone	25	BQL
n-Butylbenzene	1	BQL
sec-Butylbenzene	1	BQL
tert-Butylbenzene	1	BQL
Carbon disulfide	1	BQL
Carbon tetrachloride	1	BQL
Chlorobenzene	1	BQL
Chloroethane	1	**56** E
2-Chloroethyl vinyl ether	5	BQL
Chloroform	1	BQL
Chloromethane	1	BQL
2-Chlorotoluene	1	BQL
4-Chlorotoluene	1	BQL
Dibromochloromethane	1	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	1	BQL
1,2-Dibromoethane (EDB)	1	BQL
1,2-Dichlorobenzene	1	**1**
1,3-Dichlorobenzene	1	BQL
1,4-Dichlorobenzene	1	**7**
trans-1,4-Dichloro-2-butene	5	BQL
1,1-Dichloroethane	1	**300** E
1,1-Dichloroethene	1	**84** E
1,2-Dichloroethane	1	BQL
cis-1,2-Dichloroethene	1	**140** E
trans-1,2-dichloroethene	1	BQL
1,2-Dichloropropane	1	BQL
1,3-Dichloropropane	1	BQL
2,2-Dichloropropane	1	BQL
1,1-Dichloropropene	1	BQL
cis-1,3-Dichloropropene	1	BQL
trans-1,3-Dichloropropene	1	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	1	BQL
Ethylbenzene	1	BQL
Hexachlorobutadiene	1	BQL
2-Hexanone	5	BQL
Iodomethane	1	BQL
Isopropylbenzene	1	BQL

Reviewed by: ETD

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	70REP-02-GW	Date Analyzed:	11/25/96
Client Project ID:	NC0360.212	Analyzed By:	WML
Lab Sample ID:	17318	Date Collected:	11/12/96
Lab Project ID:	G149-62	Date Received:	11/14/96
Matrix:	Water	Dilution:	1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	1	BQL
Methylene chloride	5	BQL
4-Methyl-2-pentanone	5	BQL
Methyl-tert-butyl ether (MTBE)	1	**2**
Naphthalene	1	BQL
n-Propyl benzene	1	BQL
Styrene	1	BQL
1,1,1,2-Tetrachloroethane	1	BQL
1,1,2,2-Tetrachloroethane	1	BQL
Tetrachloroethene	1	BQL
Toluene	1	BQL
1,2,3-Trichlorobenzene	1	BQL
1,2,4-Trichlorobenzene	1	BQL
Trichloroethene	1	**160** E
1,1,1-Trichloroethane	1	**770** E
1,1,2-Trichloroethane	1	BQL
Trichlorofluoromethane	1	BQL
1,2,3-Trichloropropane	1	BQL
1,2,4-Trimethylbenzene	1	BQL
1,3,5-Trimethylbenzene	1	BQL
Vinyl acetate	1	BQL
Vinyl chloride	1	**10**
m-,p-Xylene	2	BQL
o-Xylene	1	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	9.8	98
1,2-Dichloroethane-d4	10.0	11.0	110
Toluene-d8	10.0	9.0	90

Comments:
All results are corrected for dilution.

Reviewed by: FID

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: 70REP-02-GW
Client Project ID: NC0360.212
Lab Sample ID: 17318
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/25/96
Analyzed By: WML
Date Collected: 11/12/96
Date Received: 11/14/96
Dilution: 80.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	2000	BQL
Acrolein	4000	BQL
Acrylonitrile	4000	BQL
Benzene	80	BQL
Bromobenzene	80	BQL
Bromochloromethane	80	BQL
Bromodichloromethane	80	BQL
Bromoform	80	BQL
Bromomethane	80	BQL
2-Butanone	2000	BQL
n-Butylbenzene	80	BQL
sec-Butylbenzene	80	BQL
tert-Butylbenzene	80	BQL
Carbon disulfide	80	BQL
Carbon tetrachloride	80	BQL
Chlorobenzene	80	BQL
Chloroethane	80	**38 J**
2-Chloroethyl vinyl ether	400	BQL
Chloroform	80	BQL
Chloromethane	80	BQL
2-Chlorotoluene	80	BQL
4-Chlorotoluene	80	BQL
Dibromochloromethane	80	BQL
1,2-Dibromo-3-chloropropane	400	BQL
Dibromomethane	80	BQL
1,2-Dibromoethane (EDB)	80	BQL
1,2-Dichlorobenzene	80	BQL
1,3-Dichlorobenzene	80	BQL
1,4-Dichlorobenzene	80	BQL
trans-1,4-Dichloro-2-butene	400	BQL
1,1-Dichloroethane	80	**250**
1,1-Dichloroethene	80	**70 J**
1,2-Dichloroethane	80	BQL
cis-1,2-Dichloroethene	80	**100**
trans-1,2-dichloroethene	80	BQL
1,2-Dichloropropane	80	BQL
1,3-Dichloropropane	80	BQL
2,2-Dichloropropane	80	BQL
1,1-Dichloropropene	80	BQL
cis-1,3-Dichloropropene	80	BQL
trans-1,3-Dichloropropene	80	BQL
Dichlorodifluoromethane	400	BQL
Diisopropyl ether (DIPE)	80	BQL
Ethylbenzene	80	BQL
Hexachlorobutadiene	80	BQL
2-Hexanone	400	BQL
Iodomethane	80	BQL
Isopropylbenzene	80	BQL

Reviewed by: [illegible]

Flags: BQL = Below Quantitation Limit

Results for Volatiles
by GCMS 8260B

Client Sample ID: 70REP-02-GW
Client Project ID: NC0360.212
Lab Sample ID: 17318
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/25/96
Analyzed By: WML
Date Collected: 11/12/96
Date Received: 11/14/96
Dilution: 80.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	80	BQL
Methylene chloride	400	BQL
4-Methyl-2-pentanone	400	BQL
Methyl-tert-butyl ether (MTBE)	80	BQL
Naphthalene	80	BQL
n-Propyl benzene	80	BQL
Styrene	80	BQL
1,1,1,2-Tetrachloroethane	80	BQL
1,1,2,2-Tetrachloroethane	80	BQL
Tetrachloroethene	80	BQL
Toluene	80	BQL
1,2,3-Trichlorobenzene	80	BQL
1,2,4-Trichlorobenzene	80	BQL
Trichloroethene	80	**210**
1,1,1-Trichloroethane	80	**990**
1,1,2-Trichloroethane	80	BQL
Trichlorofluoromethane	80	BQL
1,2,3-Trichloropropane	80	BQL
1,2,4-Trimethylbenzene	80	BQL
1,3,5-Trimethylbenzene	80	BQL
Vinyl acetate	80	BQL
Vinyl chloride	80	BQL
m-,p-Xylene	160	BQL
o-Xylene	80	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	9.9	99
1,2-Dichloroethane-d4	10.0	9.5	95
Toluene-d8	10.0	9.8	98

Comments:
All results are corrected for dilution.

Reviewed by: _____

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: 70EB-02-GW
Client Project ID: NC0360.212
Lab Sample ID: 17320
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/25/96
Analyzed By: WML
Date Collected: 11/12/96
Date Received: 11/14/96
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	25	84
Acrolein	50	BQL
Acrylonitrile	50	BQL
Benzene	1	BQL
Bromobenzene	1	BQL
Bromochloromethane	1	BQL
Bromodichloromethane	1	BQL
Bromoform	1	BQL
Bromomethane	1	BQL
2-Butanone	25	BQL
n-Butylbenzene	1	BQL
sec-Butylbenzene	1	BQL
tert-Butylbenzene	1	BQL
Carbon disulfide	1	BQL
Carbon tetrachloride	1	BQL
Chlorobenzene	1	BQL
Chloroethane	1	BQL
2-Chloroethyl vinyl ether	5	BQL
Chloroform	1	BQL
Chloromethane	1	BQL
2-Chlorotoluene	1	BQL
4-Chlorotoluene	1	BQL
Dibromochloromethane	1	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	1	BQL
1,2-Dibromoethane (EDB)	1	BQL
1,2-Dichlorobenzene	1	BQL
1,3-Dichlorobenzene	1	BQL
1,4-Dichlorobenzene	1	BQL
trans-1,4-Dichloro-2-butene	5	BQL
1,1-Dichloroethane	1	BQL
1,1-Dichloroethene	1	BQL
1,2-Dichloroethane	1	BQL
cis-1,2-Dichloroethene	1	BQL
trans-1,2-dichloroethene	1	BQL
1,2-Dichloropropane	1	BQL
1,3-Dichloropropane	1	BQL
2,2-Dichloropropane	1	BQL
1,1-Dichloropropene	1	BQL
cis-1,3-Dichloropropene	1	BQL
trans-1,3-Dichloropropene	1	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	1	BQL
Ethylbenzene	1	BQL
Hexachlorobutadiene	1	BQL
2-Hexanone	5	BQL
Iodomethane	1	BQL
Isopropylbenzene	1	BQL

Reviewed by: [illegible]

Flags: BQL = Below Quantitation Limit

Results for Volatiles
by GCMS 8260B

Client Sample ID: 70EB-02-GW
Client Project ID: NC0360.212
Lab Sample ID: 17320
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/25/96
Analyzed By: WML
Date Collected: 11/12/96
Date Received: 11/14/96
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	1	BQL
Methylene chloride	5	BQL
4-Methyl-2-pentanone	5	BQL
Methyl-tert-butyl ether (MTBE)	1	BQL
Naphthalene	1	BQL
n-Propyl benzene	1	BQL
Styrene	1	BQL
1,1,1,2-Tetrachloroethane	1	BQL
1,1,2,2-Tetrachloroethane	1	BQL
Tetrachloroethene	1	BQL
Toluene	1	BQL
1,2,3-Trichlorobenzene	1	BQL
1,2,4-Trichlorobenzene	1	BQL
Trichloroethene	1	BQL
1,1,1-Trichloroethane	1	BQL
1,1,2-Trichloroethane	1	BQL
Trichlorofluoromethane	1	BQL
1,2,3-Trichloropropane	1	BQL
1,2,4-Trimethylbenzene	1	BQL
1,3,5-Trimethylbenzene	1	BQL
Vinyl acetate	1	BQL
Vinyl chloride	1	BQL
m-,p-Xylene	2	BQL
o-Xylene	1	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	10	100
1,2-Dichloroethane-d4	10.0	9.7	97
Toluene-d8	10.0	9.9	99

Comments:
All results are corrected for dilution.

Reviewed by: WMB

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: 70TB-02-(11/12/96)
Client Project ID: NC0360.212
Lab Sample ID: 17322
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/22/96
Analyzed By: WML
Date Collected: 11/12/96
Date Received: 11/14/96
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	25	BQL
Acrolein	50	BQL
Acrylonitrile	50	BQL
Benzene	1	BQL
Bromobenzene	1	BQL
Bromochloromethane	1	BQL
Bromodichloromethane	1	BQL
Bromoform	1	BQL
Bromomethane	1	BQL
2-Butanone	25	BQL
n-Butylbenzene	1	BQL
sec-Butylbenzene	1	BQL
tert-Butylbenzene	1	BQL
Carbon disulfide	1	BQL
Carbon tetrachloride	1	BQL
Chlorobenzene	1	BQL
Chloroethane	1	BQL
2-Chloroethyl vinyl ether	5	BQL
Chloroform	1	BQL
Chloromethane	1	BQL
2-Chlorotoluene	1	BQL
4-Chlorotoluene	1	BQL
Dibromochloromethane	1	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	1	BQL
1,2-Dibromoethane (EDB)	1	BQL
1,2-Dichlorobenzene	1	BQL
1,3-Dichlorobenzene	1	BQL
1,4-Dichlorobenzene	1	BQL
trans-1,4-Dichloro-2-butene	5	BQL
1,1-Dichloroethane	1	BQL
1,1-Dichloroethene	1	BQL
1,2-Dichloroethane	1	BQL
cis-1,2-Dichloroethene	1	BQL
trans-1,2-dichloroethene	1	BQL
1,2-Dichloropropane	1	BQL
1,3-Dichloropropane	1	BQL
2,2-Dichloropropane	1	BQL
1,1-Dichloropropene	1	BQL
cis-1,3-Dichloropropene	1	BQL
trans-1,3-Dichloropropene	1	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	1	BQL
Ethylbenzene	1	BQL
Hexachlorobutadiene	1	BQL
2-Hexanone	5	BQL
Iodomethane	1	BQL
Isopropylbenzene	1	BQL

Reviewed by: Mm

Flags: BQL = Below Quantitation Limit

Results for Volatiles
by GCMS 8260B

Client Sample ID:	70TB-02-(11/12/96)	Date Analyzed:	11/22/96
Client Project ID:	NC0360.212	Analyzed By:	WML
Lab Sample ID:	17322	Date Collected:	11/12/96
Lab Project ID:	G149-62	Date Received:	11/14/96
Matrix:	Water	Dilution:	1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	1	BQL
Methylene chloride	5	BQL
4-Methyl-2-pentanone	5	BQL
Methyl-tert-butyl ether (MTBE)	1	BQL
Naphthalene	1	BQL
n-Propyl benzene	1	BQL
Styrene	1	BQL
1,1,1,2-Tetrachloroethane	1	BQL
1,1,2,2-Tetrachloroethane	1	BQL
Tetrachloroethene	1	BQL
Toluene	1	BQL
1,2,3-Trichlorobenzene	1	BQL
1,2,4-Trichlorobenzene	1	BQL
Trichloroethene	1	BQL
1,1,1-Trichloroethane	1	BQL
1,1,2-Trichloroethane	1	BQL
Trichlorofluoromethane	1	BQL
1,2,3-Trichloropropane	1	BQL
1,2,4-Trimethylbenzene	1	BQL
1,3,5-Trimethylbenzene	1	BQL
Vinyl acetate	1	BQL
Vinyl chloride	1	BQL
m-,p-Xylene	2	BQL
o-Xylene	1	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	10	100
1,2-Dichloroethane-d4	10.0	10	100
Toluene-d8	10.0	9.8	98

Comments:

All results are corrected for dilution.

Reviewed by: MAC

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	NA	Date Analyzed:	11/22/96
Client Project ID:	NC0360.212	Analyzed By:	CKC
Lab Sample ID:	VBLK3112296	Date Collected:	NA
Lab Project ID:	G149-62	Date Received:	NA
Matrix:	Water	Dilution:	1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	25	BQL
Acrolein	50	BQL
Acrylonitrile	50	BQL
Benzene	1	BQL
Bromobenzene	1	BQL
Bromochloromethane	1	BQL
Bromodichloromethane	1	BQL
Bromoform	1	BQL
Bromomethane	1	BQL
2-Butanone	25	BQL
n-Butylbenzene	1	BQL
sec-Butylbenzene	1	BQL
tert-Butylbenzene	1	BQL
Carbon disulfide	1	BQL
Carbon tetrachloride	1	BQL
Chlorobenzene	1	BQL
Chloroethane	1	BQL
2-Chloroethyl vinyl ether	5	BQL
Chloroform	1	BQL
Chloromethane	1	BQL
2-Chlorotoluene	1	BQL
4-Chlorotoluene	1	BQL
Dibromochloromethane	1	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	1	BQL
1,2-Dibromoethane (EDB)	1	BQL
1,2-Dichlorobenzene	1	BQL
1,3-Dichlorobenzene	1	BQL
1,4-Dichlorobenzene	1	BQL
trans-1,4-Dichloro-2-butene	5	BQL
1,1-Dichloroethane	1	BQL
1,1-Dichloroethene	1	BQL
1,2-Dichloroethane	1	BQL
cis-1,2-Dichloroethene	1	BQL
trans-1,2-dichloroethene	1	BQL
1,2-Dichloropropane	1	BQL
1,3-Dichloropropane	1	BQL
2,2-Dichloropropane	1	BQL
1,1-Dichloropropene	1	BQL
cis-1,3-Dichloropropene	1	BQL
trans-1,3-Dichloropropene	1	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	1	BQL
Ethylbenzene	1	BQL
Hexachlorobutadiene	1	BQL
2-Hexanone	5	BQL
Iodomethane	1	BQL
Isopropylbenzene	1	BQL

Reviewed by: [illegible]

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	NA	Date Analyzed:	11/22/96
Client Project ID:	NC0360.212	Analyzed By:	CKC
Lab Sample ID:	VBLK3112296	Date Collected:	NA
Lab Project ID:	G149-62	Date Received:	NA
Matrix:	Water	Dilution:	1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	1	BQL
Methylene chloride	5	BQL
4-Methyl-2-pentanone	5	BQL
Methyl-tert-butyl ether (MTBE)	1	BQL
Naphthalene	1	BQL
n-Propyl benzene	1	BQL
Styrene	1	BQL
1,1,1,2-Tetrachloroethane	1	BQL
1,1,2,2-Tetrachloroethane	1	BQL
Tetrachloroethene	1	BQL
Toluene	1	BQL
1,2,3-Trichlorobenzene	1	BQL
1,2,4-Trichlorobenzene	1	BQL
Trichloroethene	1	BQL
1,1,1-Trichloroethane	1	BQL
1,1,2-Trichloroethane	1	BQL
Trichlorofluoromethane	1	BQL
1,2,3-Trichloropropane	1	BQL
1,2,4-Trimethylbenzene	1	BQL
1,3,5-Trimethylbenzene	1	BQL
Vinyl acetate	1	BQL
Vinyl chloride	1	BQL
m-,p-Xylene	2	BQL
o-Xylene	1	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	9.5	95
1,2-Dichloroethane-d4	10.0	10	100
Toluene-d8	10.0	9.9	98

Comments:

All results are corrected for dilution.

Reviewed by: [illegible]

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK1112296
Lab Project ID: G149-62
Matrix: Water

Date Analyzed: 11/22/96
Analyzed By: WML
Date Collected: NA
Date Received: NA
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	25	BQL
Acrolein	50	BQL
Acrylonitrile	50	BQL
Benzene	1	BQL
Bromobenzene	1	BQL
Bromochloromethane	1	BQL
Bromodichloromethane	1	BQL
Bromoform	1	BQL
Bromomethane	1	BQL
2-Butanone	25	BQL
n-Butylbenzene	1	BQL
sec-Butylbenzene	1	BQL
tert-Butylbenzene	1	BQL
Carbon disulfide	1	BQL
Carbon tetrachloride	1	BQL
Chlorobenzene	1	BQL
Chloroethane	1	BQL
2-Chloroethyl vinyl ether	5	BQL
Chloroform	1	BQL
Chloromethane	1	BQL
2-Chlorotoluene	1	BQL
4-Chlorotoluene	1	BQL
Dibromochloromethane	1	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	1	BQL
1,2-Dibromoethane (EDB)	1	BQL
1,2-Dichlorobenzene	1	BQL
1,3-Dichlorobenzene	1	BQL
1,4-Dichlorobenzene	1	BQL
trans-1,4-Dichloro-2-butene	5	BQL
1,1-Dichloroethane	1	BQL
1,1-Dichloroethene	1	BQL
1,2-Dichloroethane	1	BQL
cis-1,2-Dichloroethene	1	BQL
trans-1,2-dichloroethene	1	BQL
1,2-Dichloropropane	1	BQL
1,3-Dichloropropane	1	BQL
2,2-Dichloropropane	1	BQL
1,1-Dichloropropene	1	BQL
cis-1,3-Dichloropropene	1	BQL
trans-1,3-Dichloropropene	1	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	1	BQL
Ethylbenzene	1	BQL
Hexachlorobutadiene	1	BQL
2-Hexanone	5	BQL
Iodomethane	1	BQL
Isopropylbenzene	1	BQL

Reviewed by: WM

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	NA	Date Analyzed:	11/22/96
Client Project ID:	NC0360.212	Analyzed By:	WML
Lab Sample ID:	VBLK1112296	Date Collected:	NA
Lab Project ID:	G149-62	Date Received:	NA
Matrix:	Water	Dilution:	1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	1	BQL
Methylene chloride	5	BQL
4-Methyl-2-pentanone	5	BQL
Methyl-tert-butyl ether (MTBE)	1	BQL
Naphthalene	1	BQL
n-Propyl benzene	1	BQL
Styrene	1	BQL
1,1,1,2-Tetrachloroethane	1	BQL
1,1,2,2-Tetrachloroethane	1	BQL
Tetrachloroethene	1	BQL
Toluene	1	BQL
1,2,3-Trichlorobenzene	1	BQL
1,2,4-Trichlorobenzene	1	BQL
Trichloroethene	1	BQL
1,1,1-Trichloroethane	1	BQL
1,1,2-Trichloroethane	1	BQL
Trichlorofluoromethane	1	BQL
1,2,3-Trichloropropane	1	BQL
1,2,4-Trimethylbenzene	1	BQL
1,3,5-Trimethylbenzene	1	BQL
Vinyl acetate	1	BQL
Vinyl chloride	1	BQL
m-,p-Xylene	2	BQL
o-Xylene	1	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	7.8	78
1,2-Dichloroethane-d4	10.0	11	110
Toluene-d8	10.0	10	100

Comments:

All results are corrected for dilution.

Reviewed by: MW

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	NA	Date Analyzed:	11/25/96
Client Project ID:	NC0360.212	Analyzed By:	WML
Lab Sample ID:	VBLK1112596	Date Collected:	NA
Lab Project ID:	G149-62	Date Received:	NA
Matrix:	Water	Dilution:	1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acetone	25	BQL
Acrolein	50	BQL
Acrylonitrile	50	BQL
Benzene	1	BQL
Bromobenzene	1	BQL
Bromochloromethane	1	BQL
Bromodichloromethane	1	BQL
Bromoform	1	BQL
Bromomethane	1	BQL
2-Butanone	25	BQL
n-Butylbenzene	1	BQL
sec-Butylbenzene	1	BQL
tert-Butylbenzene	1	BQL
Carbon disulfide	1	BQL
Carbon tetrachloride	1	BQL
Chlorobenzene	1	BQL
Chloroethane	1	BQL
2-Chloroethyl vinyl ether	5	BQL
Chloroform	1	BQL
Chloromethane	1	BQL
2-Chlorotoluene	1	BQL
4-Chlorotoluene	1	BQL
Dibromochloromethane	1	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	1	BQL
1,2-Dibromoethane (EDB)	1	BQL
1,2-Dichlorobenzene	1	BQL
1,3-Dichlorobenzene	1	BQL
1,4-Dichlorobenzene	1	BQL
trans-1,4-Dichloro-2-butene	5	BQL
1,1-Dichloroethane	1	BQL
1,1-Dichloroethene	1	BQL
1,2-Dichloroethane	1	BQL
cis-1,2-Dichloroethene	1	BQL
trans-1,2-dichloroethene	1	BQL
1,2-Dichloropropane	1	BQL
1,3-Dichloropropane	1	BQL
2,2-Dichloropropane	1	BQL
1,1-Dichloropropene	1	BQL
cis-1,3-Dichloropropene	1	BQL
trans-1,3-Dichloropropene	1	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	1	BQL
Ethylbenzene	1	BQL
Hexachlorobutadiene	1	BQL
2-Hexanone	5	BQL
Iodomethane	1	BQL
Isopropylbenzene	1	BQL

Reviewed by: lm

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	NA	Date Analyzed:	11/25/96
Client Project ID:	NC0360.212	Analyzed By:	WML
Lab Sample ID:	VBLK1112596	Date Collected:	NA
Lab Project ID:	G149-62	Date Received:	NA
Matrix:	Water	Dilution:	1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
4-Isopropyltoluene	1	BQL
Methylene chloride	5	BQL
4-Methyl-2-pentanone	5	BQL
Methyl-tert-butyl ether (MTBE)	1	BQL
Naphthalene	1	BQL
n-Propyl benzene	1	BQL
Styrene	1	BQL
1,1,1,2-Tetrachloroethane	1	BQL
1,1,2,2-Tetrachloroethane	1	BQL
Tetrachloroethene	1	BQL
Toluene	1	BQL
1,2,3-Trichlorobenzene	1	BQL
1,2,4-Trichlorobenzene	1	BQL
Trichloroethene	1	BQL
1,1,1-Trichloroethane	1	BQL
1,1,2-Trichloroethane	1	BQL
Trichlorofluoromethane	1	BQL
1,2,3-Trichloropropane	1	BQL
1,2,4-Trimethylbenzene	1	BQL
1,3,5-Trimethylbenzene	1	BQL
Vinyl acetate	1	BQL
Vinyl chloride	1	BQL
m-,p-Xylene	2	BQL
o-Xylene	1	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	10	100
1,2-Dichloroethane-d4	10.0	9.7	97
Toluene-d8	10.0	9.9	99

Comments:

All results are corrected for dilution.

Reviewed by: WMC

Flags: BQL = Below Quantitation Limit

Results for MS/MSD
by GC/MS 8260B

Client Sample ID: Batch QC
Client Project ID: NC0360.102
Lab Sample ID: 17433
Lab Project ID: G149-62
Analyzed By: CKC

Date Analyzed: 11/26/96
Date Collected: 11/15/96
Date Received: 11/19/96
Matrix: Water

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
acetone	BQL	25	95.7	124.5	25.7	174	26.2	30
acrolein	BQL	250	114.0	130.1	>0	428	13.2	30
acrylonitrile	BQL	250	47.9	44.0	>0	204	8.6	30
benzene	BQL	5	116.7	131.9	59.6	140	12.2	30
bromobenzene	BQL	5	119.7	133.7	58.0	142	11.1	30
bromochloromethane	BQL	5	121.0	134.1	59.9	140	10.3	30
bromodichloromethane	BQL	5	110.5	124.7	62.9	137	12.1	30
bromoform	BQL	5	101.5	110.3	55.5	144	8.3	30
bromomethane	BQL	5	120.7	135.6 *	71.2	129	11.6	30
2-butanone	BQL	25	140.8	123.6	23.4	177	13.0	30
n-butylbenzene	BQL	5	108.2	124.8	64.3	136	14.2	30
sec-butylbenzene	BQL	5	109.1	124.2	56.8	143	12.9	30
tert-butylbenzene	BQL	5	112.0	126.3	65.3	135	12.0	30
Carbon disulfide	BQL	5	86.6	87.7	55.1	145	1.2	30
carbon tetrachloride	BQL	5	111.1	125.7	57.2	143	12.3	30
chlorobenzene	BQL	5	114.3	131.8	>0	251	14.3	30
chloroethane	BQL	5	119.1	132.5	55.7	144	10.6	30
2-chloroethyl vinyl ether	BQL	25	23.1	25.1	>0	124	8.4	30
chloroform	BQL	5	114.5	130.9	64.7	135	13.4	30
chloromethane	BQL	5	124.5	144.6	53.0	147	15.0	30
2-chlorotoluene	BQL	5	113.1	126.9	62.0	138	11.5	30
4-chlorotoluene	BQL	5	111.7	123.6	61.9	138	10.1	30
dibromochloromethane	BQL	5	109.7	121.3	58.9	141	10.0	30
1,2-dibromo-3-chloropropane	BQL	5	105.2	111.4	58.6	141	5.7	30
1,2-dibromomethane	BQL	5	124.2	138.9 *	61.4	139	11.2	30
dibromomethane	BQL	5	116.8	130.2	61.1	139	10.9	30
1,2-dichlorobenzene	BQL	5	114.8	128.0	63.1	137	10.9	30
1,3-dichlorobenzene	BQL	5	113.7	126.1	62.0	138	10.3	30
1,4-dichlorobenzene	BQL	5	110.6	124.7	61.3	139	12.0	30
trans-1,4-Dichloro-2-butene	BQL	5	86.4	100.5	60.2	140	15.2	30
dichlorodifluoromethane	BQL	5	100.1	112.6	59.3	141	11.8	30
1,1-dichloroethane	BQL	5	116.8	132.9	53.9	146	12.9	30
1,2-dichloroethane	BQL	5	115.8	131.0	>0	245	12.3	30
1,1-dichloroethene	BQL	5	117.1	131.0	>0	201	11.2	30
cis-1,2-dichloroethene	BQL	5	120.6	136.1	>0	206	12.1	30
trans-1,2-dichloroethene	BQL	5	117.1	131.0	56.8	143	11.2	30
1,2-dichloropropane	BQL	5	114.8	129.5	61.8	138	12.1	30
1,3-dichloropropane	BQL	5	113.1	128.9	57.6	142	13.1	30
2,2-dichloropropane	BQL	5	113.5	128.5	60.6	139	12.4	30
1,1-dichloropropene	BQL	5	111.1	127.6	57.2	143	13.8	30
cis-1,3-dichloropropene	BQL	5	117.3	128.5	62.2	138	9.1	30
trans-1,3-dichloropropene	BQL	5	109.1	122.3	63.3	137	11.4	30
Diisopropyl ether	BQL	5	111.7	122.7	69.4	131	9.4	30
ethylbenzene	BQL	5	111.8	126.2	45.6	154	12.1	30
hexachlorobutadiene	BQL	5	97.4	121.8	57.3	143	22.3	30
2-hexanone	BQL	25	108.3	125.1	55.8	144	14.5	30
Iodomethane	BQL	5	118.3	136.1	31.6	168	14.0	30
isopropylbenzene	BQL	5	112.4	126.2	61.7	138	11.6	30
4-isopropyltoluene	BQL	5	111.4	126.9	59.4	141	13.0	30
Methyl-tert-butyl ether	BQL	5	111.2	120.9	64.7	135	8.4	30

Results for MS/MSD
by GC/MS 8260B

Client Sample ID: Batch QC
Client Project ID: NC0360.102
Lab Sample ID: 17433
Lab Project ID: G149-62
Analyzed By: CKC

Date Analyzed: 11/26/96
Date Collected: 11/15/96
Date Received: 11/19/96
Matrix: Water

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
methylene chloride	BQL	5	111.6	125.1	>0	336	11.4	30
4-methyl-2-pentanone	BQL	25	109.9	123.5	64.5	136	11.6	30
naphthalene	1	5	69.7	97.7	59.0	141	33.4 *	30
n-propyl benzene	BQL	5	109.6	123.8	63.8	136	12.1	30
styrene	BQL	5	114.5	126.0	63.9	136	9.5	30
1,1,1,2-tetrachloroethane	BQL	5	115.7	133.7	59.7	140	14.4	30
1,1,2,2-tetrachloroethane	BQL	5	103.7	118.6	56.8	143	13.4	30
tetrachloroethene	BQL	5	113.8	134.6	17.9	182	16.7	30
toluene	BQL	5	118.5	133.3	>0	460	11.8	30
1,2,3-trichlorobenzene	BQL	5	76.2	106.9	73.1	127	33.6 *	30
1,2,4-trichlorobenzene	BQL	5	81.7	102.5	68.8	131	22.5	30
1,1,1-trichloroethane	BQL	5	114.1	130.2	>0	484	13.2	30
1,1,2-trichloroethane	BQL	5	112.5	127.4	63.2	137	12.4	30
trichloroethene	17	5	106.0	131.1	32.6	167	21.2	30
trichlorofluoromethane	BQL	5	107.8	121.4	60.0	140	11.9	30
1,2,3-trichloropropane	BQL	5	63.5	111.5	41.4	159	54.8 *	30
1,2,4-trimethylbenzene	BQL	5	111.3	126.8	51.5	149	13.0	30
1,3,5-trimethylbenzene	BQL	5	113.2	126.5	67.7	132	11.1	30
vinyl chloride	BQL	5	111.8	125.1	43.1	157	11.2	30
m/p-xylene	BQL	10	113.0	128.5	3.8	196	12.9	30
o-xylene	BQL	5	113.0	124.7	21.8	178	9.8	30

Comments:

Concentrations are on column amounts.

Flags:

* = Out of limits.
NA = Not applicable
BQL = Below quantitation limit.

Reviewed By: [illegible]

Results for Labortory Control Spike (LCS)

by GC 8260B

Client Sample ID: LCS1112596
Client Project ID: NC0360.212
Lab Sample ID: None assigned
Lab Project ID: G149-62
Analyst: WML

Date Collected: Not applicable
Date Received: Not applicable
Date Analyzed: 11/25/96
Matrix: Water

	Spiked	LCS	Limits Lower	Limits Upper
acetone	25	132.3	34.0	NA
acrolein	250	135.4	>0	774
acrylonitrile	250	0.0	>0	358
benzene	5	135.2	36.4	175
bromobenzene	5	133.1	34.6	157
bromochloromethane	5	142.4	25.3	168
bromodichloromethane	5	134.3	18.9	182
bromoform	5	137.8	>0	184
bromomethane	5	137.7	>0	202
2-butanone	25	149.0	39.3	NA
n-butylbenzene	5	128.7	39.3	158
sec-butylbenzene	5	126.6	50.1	152
tert-butylbenzene	5	129.2	50.9	152
carbon disulfide	5	129.2	5.2	223
carbon tetrachloride	5	127.4	18.2	190
chlorobenzene	5	132.0	42.6	157
chloroethane	5	132.5	51.2	173
2-chloroethyl vinyl ether	25	29.1	>0	NA
chloroform	5	134.0	33.0	169
chloromethane	5	138.2	10.0	177
2-chlorotoluene	5	131.0	44.5	149
4-chlorotoluene	5	132.8	49.6	147
dibromochloromethane	5	136.9	13.6	176
1,2-dibromo-3-chloropropane	5	120.0	36.9	121
1,2-dibromomethane	5	136.1	31.0	161
dibromomethane	5	138.9	26.9	166
1,2-dichlorobenzene	5	134.8	38.8	144
1,3-dichlorobenzene	5	132.9	38.1	152
1,4-dichlorobenzene	5	132.3	40.8	148
trans-1,4-dichloro-2-butene	5	125.0	>0	NA
dichlorodifluoromethane	5	109.2	28.6	173
1,1-dichloroethane	5	137.3	19.2	193
1,2-dichloroethane	5	141.1	30.1	170
1,1-dichloroethene	5	122.2	34.0	175
cis-1,2-dichloroethene	5	140.8	38.2	167
trans-1,2-dichloroethene	5	122.2	38.3	172
1,2-dichloropropane	5	133.6	27.6	174
1,3-dichloropropane	5	131.8	43.3	146
2,2-dichloropropane	5	128.5	11.9	195
1,1-dichloropropene	5	125.3	31.4	179
cis-1,3-dichloropropene	5	139.1	6.3	195
trans-1,3-dichloropropene	5	133.6	6.3	185
diisopropyl ether	5	131.8	50.2	145
ethylbenzene	5	129.8	54.0	152
hexachlorobutadiene	5	60.1	33.4	158
2-hexanone	25	133.2	61.5	NA
Iodomethane	5	132.2	>0	194
isopropylbenzene	5	127.8	52.0	151
4-isopropyltoluene	5	128.9	47.2	153
methyl-tert-butyl ether	5	131.9	41.3	148

Results for Labortory Control Spike (LCS)

by GC 8260B

Client Sample ID: LCS1112596
Client Project ID: NC0360.212
Lab Sample ID: None assigned
Lab Project ID: G149-62
Analyst: WML

Date Collected: Not applicable
Date Received: Not applicable
Date Analyzed: 11/25/96
Matrix: Water

	Spiked	LCS	Limits Lower	Limits Upper
methylene chloride	5	127.4	32.5	166
4-methyl-2-pentanone	25	134.1	54.7	NA
naphthalene	5	128.3	>0	215
n-propyl benzene	5	128.5	51.0	151
styrene	5	131.3	46.6	146
1,1,1,2-tetrachloroethane	5	135.6	42.2	154
1,1,2,2-tetrachloroethane	5	128.0	10.7	186
tetrachloroethene	5	125.0	47.1	164
toluene	5	135.8	32.0	179
1,2,3-trichlorobenzene	5	115.0	>0	182
1,2,4-trichlorobenzene	5	123.1	>0	183
1,1,1-trichloroethane	5	127.8	34.9	172
1,1,2-trichloroethane	5	131.5	40.2	149
trichloroethene	5	134.0	38.1	174
trichlorofluoromethane	5	115.6	29.6	175
1,2,3-trichloropropane	5	127.0	>0	236
1,2,4-trimethylbenzene	5	130.8	53.3	147
1,3,5-trimethylbenzene	5	131.8	53.1	147
vinyl acetate	5	616.7	>0	NA
vinyl chloride	5	123.9	34.8	170
m/p-xylene	10	131.3	55.7	149
o-xylene	5	129.6	57.5	144

Comments:

Concentration values are on column amount.
Revision Date: 11/11/96
Revision # 11119601

Flags:

* = Out of limits.
NA = Not applicable

Reviewed By: WL

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-2
Client Project ID: NC0360.212
Lab Sample ID: 17309
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	11/26/96	4	4	BQL
Bromoform	11/26/96	4	8	BQL
Bromomethane	11/26/96	4	8	BQL
Carbon tetrachloride	11/26/96	4	4	BQL
Chlorobenzene	11/26/96	4	4	BQL
Chloroethane	11/26/96	4	4	13
Chloroform	11/26/96	4	4	BQL
Chloromethane	11/26/96	4	4	BQL
Dibromochloromethane	11/26/96	4	4	BQL
1,2-Dibromoethane (EDB)	11/26/96	4	4	BQL
1,2-Dichlorobenzene	11/26/96	4	4	BQL
1,3-Dichlorobenzene	11/26/96	4	4	BQL
1,4-Dichlorobenzene	11/26/96	4	4	BQL
1,1-Dichloroethane	11/26/96	4	4	84
1,2-Dichloroethane	11/26/96	4	4	BQL
1,1-Dichloroethene	11/26/96	4	4	17
cis-1,2-Dichloroethene	11/26/96	4	4	28
trans-1,2-Dichloroethene	11/26/96	4	4	BQL
1,2-Dichloropropane	11/26/96	4	4	BQL
cis-1,3-Dichloropropene	11/26/96	4	4	BQL
trans-1,3-Dichloropropene	11/26/96	4	4	BQL
Methylene Chloride	11/26/96	4	20	BQL
1,1,2,2-Tertrachloroethane	11/26/96	4	4	BQL
Tetrachloroethene	11/26/96	4	4	BQL
1,1,1-Trichloroethane	11/26/96	4	4	57
1,1,2-Trichloroethane	11/26/96	4	4	BQL
Trichloroethene	11/26/96	4	4	BQL
Trichlorofluoromethane	11/26/96	4	4	BQL
Vinyl Chloride	11/26/96	4	4	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: mr

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-3
Client Project ID: NC0360.212
Lab Sample ID: 17310
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	11/26/96	1	1	BQL
Bromoform	11/26/96	1	2	BQL
Bromomethane	11/26/96	1	2	BQL
Carbon tetrachloride	11/26/96	1	1	BQL
Chlorobenzene	11/26/96	1	1	BQL
Chloroethane	11/26/96	1	1	BQL
Chloroform	11/26/96	1	1	BQL
Chloromethane	11/26/96	1	1	BQL
Dibromochloromethane	11/26/96	1	1	BQL
1,2-Dibromoethane (EDB)	11/26/96	1	1	BQL
1,2-Dichlorobenzene	11/26/96	1	1	BQL
1,3-Dichlorobenzene	11/26/96	1	1	BQL
1,4-Dichlorobenzene	11/26/96	1	1	BQL
1,1-Dichloroethane	11/26/96	1	1	BQL
1,2-Dichloroethane	11/26/96	1	1	BQL
1,1-Dichloroethene	11/26/96	1	1	BQL
cis-1,2-Dichloroethene	11/26/96	1	1	BQL
trans-1,2-Dichloroethene	11/26/96	1	1	BQL
1,2-Dichloropropane	11/26/96	1	1	BQL
cis-1,3-Dichloropropene	11/26/96	1	1	BQL
trans-1,3-Dichloropropene	11/26/96	1	1	BQL
Methylene Chloride	11/26/96	1	5	BQL
1,1,2,2-Tertrachloroethane	11/26/96	1	1	BQL
Tetrachloroethene	11/26/96	1	1	BQL
1,1,1-Trichloroethane	11/26/96	1	1	BQL
1,1,2-Trichloroethane	11/26/96	1	1	BQL
Trichloroethene	11/26/96	1	1	BQL
Trichlorofluoromethane	11/26/96	1	1	BQL
Vinyl Chloride	11/26/96	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	44	110

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: Ma

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-4
Client Project ID: NC0360.212
Lab Sample ID: 17311
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	11/27/96	1	1	BQL
Bromoform	11/27/96	1	2	BQL
Bromomethane	11/27/96	1	2	BQL
Carbon tetrachloride	11/27/96	1	1	BQL
Chlorobenzene	11/27/96	1	1	BQL
Chloroethane	11/27/96	1	1	BQL
Chloroform	11/27/96	1	1	BQL
Chloromethane	11/27/96	1	1	BQL
Dibromochloromethane	11/27/96	1	1	BQL
1,2-Dibromoethane (EDB)	11/27/96	1	1	BQL
1,2-Dichlorobenzene	11/27/96	1	1	BQL
1,3-Dichlorobenzene	11/27/96	1	1	BQL
1,4-Dichlorobenzene	11/27/96	1	1	BQL
1,1-Dichloroethane	11/27/96	1	1	BQL
1,2-Dichloroethane	11/27/96	1	1	BQL
1,1-Dichloroethene	11/27/96	1	1	BQL
cis-1,2-Dichloroethene	11/27/96	1	1	BQL
trans-1,2-Dichloroethene	11/27/96	1	1	BQL
1,2-Dichloropropane	11/27/96	1	1	BQL
cis-1,3-Dichloropropene	11/27/96	1	1	BQL
trans-1,3-Dichloropropene	11/27/96	1	1	BQL
Methylene Chloride	11/27/96	1	5	BQL
1,1,2,2-Tertrachloroethane	11/27/96	1	1	BQL
Tetrachloroethene	11/27/96	1	1	BQL
1,1,1-Trichloroethane	11/27/96	1	1	BQL
1,1,2-Trichloroethane	11/27/96	1	1	BQL
Trichloroethene	11/27/96	1	1	BQL
Trichlorofluoromethane	11/27/96	1	1	BQL
Vinyl Chloride	11/27/96	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: MW

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-5
Client Project ID: NC0360.212
Lab Sample ID: 17312
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)	
Bromodichloromethane	11/27/96	1	1	BQL	
Bromoform	11/27/96	1	2	BQL	
Bromomethane	11/27/96	1	2	BQL	
Carbon tetrachloride	11/27/96	1	1	BQL	
Chlorobenzene	11/27/96	1	1	BQL	
Chloroethane	11/27/96	1	1	BQL	
Chloroform	11/27/96	1	1	BQL	
Chloromethane	11/27/96	1	1	BQL	
Dibromochloromethane	11/27/96	1	1	BQL	
1,2-Dibromoethane (EDB)	11/27/96	1	1	BQL	
1,2-Dichlorobenzene	11/27/96	1	1	BQL	
1,3-Dichlorobenzene	11/27/96	1	1	BQL	
1,4-Dichlorobenzene	11/27/96	1	1	BQL	
1,1-Dichloroethane	11/27/96	1	1	BQL	
1,2-Dichloroethane	11/27/96	1	1	BQL	
1,1-Dichloroethene	11/27/96	1	1	BQL	
cis-1,2-Dichloroethene	11/27/96	1	1		2
trans-1,2-Dichloroethene	11/27/96	1	1	BQL	
1,2-Dichloropropane	11/27/96	1	1	BQL	
cis-1,3-Dichloropropene	11/27/96	1	1	BQL	
trans-1,3-Dichloropropene	11/27/96	1	1	BQL	
Methylene Chloride	11/27/96	1	5	BQL	
1,1,2,2-Tertrachloroethane	11/27/96	1	1	BQL	
Tetrachloroethene	11/27/96	1	1	BQL	
1,1,1-Trichloroethane	11/27/96	1	1	BQL	
1,1,2-Trichloroethane	11/27/96	1	1	BQL	
Trichloroethene	11/27/96	1	1	BQL	
Trichlorofluoromethane	11/27/96	1	1	BQL	
Vinyl Chloride	11/27/96	1	1		3

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: MS

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-6
Client Project ID: NC0360.212
Lab Sample ID: 17313
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	11/26/96	1	1	BQL
Bromoform	11/26/96	1	2	BQL
Bromomethane	11/26/96	1	2	BQL
Carbon tetrachloride	11/26/96	1	1	BQL
Chlorobenzene	11/26/96	1	1	BQL
Chloroethane	11/26/96	1	1	3
Chloroform	11/26/96	1	1	BQL
Chloromethane	11/26/96	1	1	BQL
Dibromochloromethane	11/26/96	1	1	BQL
1,2-Dibromoethane (EDB)	11/26/96	1	1	BQL
1,2-Dichlorobenzene	11/26/96	1	1	BQL
1,3-Dichlorobenzene	11/26/96	1	1	BQL
1,4-Dichlorobenzene	11/26/96	1	1	BQL
1,1-Dichloroethane	11/26/96	1	1	28
1,2-Dichloroethane	11/26/96	1	1	BQL
1,1-Dichloroethene	11/26/96	1	1	7
cis-1,2-Dichloroethene	11/26/96	1	1	92
trans-1,2-Dichloroethene	11/26/96	1	1	1
1,2-Dichloropropane	11/26/96	1	1	BQL
cis-1,3-Dichloropropene	11/26/96	1	1	BQL
trans-1,3-Dichloropropene	11/26/96	1	1	BQL
Methylene Chloride	11/26/96	1	5	BQL
1,1,2,2-Tertrachloroethane	11/26/96	1	1	BQL
Tetrachloroethene	11/26/96	1	1	BQL
1,1,1-Trichloroethane	11/26/96	1	1	5
1,1,2-Trichloroethane	11/26/96	1	1	BQL
Trichloroethene	11/26/96	1	1	31
Trichlorofluoromethane	11/26/96	1	1	BQL
Vinyl Chloride	11/26/96	1	1	11

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	38	95

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: mm

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70REP-01-GW
Client Project ID: NC0360.212
Lab Sample ID: 17317
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	11/26/96	1	1	BQL
Bromoform	11/26/96	1	2	BQL
Bromomethane	11/26/96	1	2	BQL
Carbon tetrachloride	11/26/96	1	1	BQL
Chlorobenzene	11/26/96	1	1	BQL
Chloroethane	11/26/96	1	1	BQL
Chloroform	11/26/96	1	1	BQL
Chloromethane	11/26/96	1	1	BQL
Dibromochloromethane	11/26/96	1	1	BQL
1,2-Dibromoethane (EDB)	11/26/96	1	1	BQL
1,2-Dichlorobenzene	11/26/96	1	1	BQL
1,3-Dichlorobenzene	11/26/96	1	1	BQL
1,4-Dichlorobenzene	11/26/96	1	1	BQL
1,1-Dichloroethane	11/26/96	1	1	BQL
1,2-Dichloroethane	11/26/96	1	1	BQL
1,1-Dichloroethene	11/26/96	1	1	BQL
cis-1,2-Dichloroethene	11/26/96	1	1	BQL
trans-1,2-Dichloroethene	11/26/96	1	1	BQL
1,2-Dichloropropane	11/26/96	1	1	BQL
cis-1,3-Dichloropropene	11/26/96	1	1	BQL
trans-1,3-Dichloropropene	11/26/96	1	1	BQL
Methylene Chloride	11/26/96	1	5	BQL
1,1,2,2-Tertrachloroethane	11/26/96	1	1	BQL
Tetrachloroethene	11/26/96	1	1	BQL
1,1,1-Trichloroethane	11/26/96	1	1	BQL
1,1,2-Trichloroethane	11/26/96	1	1	BQL
Trichloroethene	11/26/96	1	1	BQL
Trichlorofluoromethane	11/26/96	1	1	BQL
Vinyl Chloride	11/26/96	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: hm

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70EB-01-GW
Client Project ID: NC0360.212
Lab Sample ID: 17319
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	11/26/96	1	1	BQL
Bromoform	11/26/96	1	2	BQL
Bromomethane	11/26/96	1	2	BQL
Carbon tetrachloride	11/26/96	1	1	BQL
Chlorobenzene	11/26/96	1	1	BQL
Chloroethane	11/26/96	1	1	BQL
Chloroform	11/26/96	1	1	BQL
Chloromethane	11/26/96	1	1	BQL
Dibromochloromethane	11/26/96	1	1	BQL
1,2-Dibromoethane (EDB)	11/26/96	1	1	BQL
1,2-Dichlorobenzene	11/26/96	1	1	BQL
1,3-Dichlorobenzene	11/26/96	1	1	BQL
1,4-Dichlorobenzene	11/26/96	1	1	BQL
1,1-Dichloroethane	11/26/96	1	1	BQL
1,2-Dichloroethane	11/26/96	1	1	BQL
1,1-Dichloroethene	11/26/96	1	1	BQL
cis-1,2-Dichloroethene	11/26/96	1	1	BQL
trans-1,2-Dichloroethene	11/26/96	1	1	BQL
1,2-Dichloropropane	11/26/96	1	1	BQL
cis-1,3-Dichloropropene	11/26/96	1	1	BQL
trans-1,3-Dichloropropene	11/26/96	1	1	BQL
Methylene Chloride	11/26/96	1	5	BQL
1,1,2,2-Tertrachloroethane	11/26/96	1	1	BQL
Tetrachloroethene	11/26/96	1	1	BQL
1,1,1-Trichloroethane	11/26/96	1	1	BQL
1,1,2-Trichloroethane	11/26/96	1	1	BQL
Trichloroethene	11/26/96	1	1	BQL
Trichlorofluoromethane	11/26/96	1	1	BQL
Vinyl Chloride	11/26/96	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70TB-01-(11/12/96)
Client Project ID: NC0360.212
Lab Sample ID: 17321
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	11/26/96	1	1	BQL
Bromoform	11/26/96	1	2	BQL
Bromomethane	11/26/96	1	2	BQL
Carbon tetrachloride	11/26/96	1	1	BQL
Chlorobenzene	11/26/96	1	1	BQL
Chloroethane	11/26/96	1	1	BQL
Chloroform	11/26/96	1	1	BQL
Chloromethane	11/26/96	1	1	BQL
Dibromochloromethane	11/26/96	1	1	BQL
1,2-Dibromoethane (EDB)	11/26/96	1	1	BQL
1,2-Dichlorobenzene	11/26/96	1	1	BQL
1,3-Dichlorobenzene	11/26/96	1	1	BQL
1,4-Dichlorobenzene	11/26/96	1	1	BQL
1,1-Dichloroethane	11/26/96	1	1	BQL
1,2-Dichloroethane	11/26/96	1	1	BQL
1,1-Dichloroethene	11/26/96	1	1	BQL
cis-1,2-Dichloroethene	11/26/96	1	1	BQL
trans-1,2-Dichloroethene	11/26/96	1	1	BQL
1,2-Dichloropropane	11/26/96	1	1	BQL
cis-1,3-Dichloropropene	11/26/96	1	1	BQL
trans-1,3-Dichloropropene	11/26/96	1	1	BQL
Methylene Chloride	11/26/96	1	5	BQL
1,1,2,2-Tertrachloroethane	11/26/96	1	1	BQL
Tetrachloroethene	11/26/96	1	1	BQL
1,1,1-Trichloroethane	11/26/96	1	1	BQL
1,1,2-Trichloroethane	11/26/96	1	1	BQL
Trichloroethene	11/26/96	1	1	BQL
Trichlorofluoromethane	11/26/96	1	1	BQL
Vinyl Chloride	11/26/96	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK3112596 (MER) 1-13-97
Lab Project ID: G149-62

Analyzed By: RNP
Date Collected: NA
Date Received: NA
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	11/25/96	1	1	BQL
Bromoform	11/25/96	1	2	BQL
Bromomethane	11/25/96	1	2	BQL
Carbon tetrachloride	11/25/96	1	1	BQL
Chlorobenzene	11/25/96	1	1	BQL
Chloroethane	11/25/96	1	1	BQL
Chloroform	11/25/96	1	1	BQL
Chloromethane	11/25/96	1	1	BQL
Dibromochloromethane	11/25/96	1	1	BQL
1,2-Dibromoethane (EDB)	11/25/96	1	1	BQL
1,2-Dichlorobenzene	11/25/96	1	1	BQL
1,3-Dichlorobenzene	11/25/96	1	1	BQL
1,4-Dichlorobenzene	11/25/96	1	1	BQL
1,1-Dichloroethane	11/25/96	1	1	BQL
1,2-Dichloroethane	11/25/96	1	1	BQL
1,1-Dichloroethene	11/25/96	1	1	BQL
cis-1,2-Dichloroethene	11/25/96	1	1	BQL
trans-1,2-Dichloroethene	11/25/96	1	1	BQL
1,2-Dichloropropane	11/25/96	1	1	BQL
cis-1,3-Dichloropropene	11/25/96	1	1	BQL
trans-1,3-Dichloropropene	11/25/96	1	1	BQL
Methylene Chloride	11/25/96	1	5	BQL
1,1,2,2-Tertrachloroethane	11/25/96	1	1	BQL
Tetrachloroethene	11/25/96	1	1	BQL
1,1,1-Trichloroethane	11/25/96	1	1	BQL
1,1,2-Trichloroethane	11/25/96	1	1	BQL
Trichloroethene	11/25/96	1	1	BQL
Trichlorofluoromethane	11/25/96	1	1	BQL
Vinyl Chloride	11/25/96	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	45	112

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: MW

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK311279G (MER) 1-13-97
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: NA
Date Received: NA
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	11/27/96	1	1	BQL
Bromoform	11/27/96	1	2	BQL
Bromomethane	11/27/96	1	2	BQL
Carbon tetrachloride	11/27/96	1	1	BQL
Chlorobenzene	11/27/96	1	1	BQL
Chloroethane	11/27/96	1	1	BQL
Chloroform	11/27/96	1	1	BQL
Chloromethane	11/27/96	1	1	BQL
Dibromochloromethane	11/27/96	1	1	BQL
1,2-Dibromoethane (EDB)	11/27/96	1	1	BQL
1,2-Dichlorobenzene	11/27/96	1	1	BQL
1,3-Dichlorobenzene	11/27/96	1	1	BQL
1,4-Dichlorobenzene	11/27/96	1	1	BQL
1,1-Dichloroethane	11/27/96	1	1	BQL
1,2-Dichloroethane	11/27/96	1	1	BQL
1,1-Dichloroethene	11/27/96	1	1	BQL
cis-1,2-Dichloroethene	11/27/96	1	1	BQL
trans-1,2-Dichloroethene	11/27/96	1	1	BQL
1,2-Dichloropropane	11/27/96	1	1	BQL
cis-1,3-Dichloropropene	11/27/96	1	1	BQL
trans-1,3-Dichloropropene	11/27/96	1	1	BQL
Methylene Chloride	11/27/96	1	5	BQL
1,1,2,2-Tertrachloroethane	11/27/96	1	1	BQL
Tetrachloroethene	11/27/96	1	1	BQL
1,1,1-Trichloroethane	11/27/96	1	1	BQL
1,1,2-Trichloroethane	11/27/96	1	1	BQL
Trichloroethene	11/27/96	1	1	BQL
Trichlorofluoromethane	11/27/96	1	1	BQL
Vinyl Chloride	11/27/96	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: MM

Results for MS/MSD
by GC 601

Client Sample ID: 70MW-6
Client Project ID: NC0360.212
Lab Sample ID: 17313, 17314, 17315
Lab Project ID: G149-62
Analyzed By: CKC

Date Analyzed: 11/26/96
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
Bromodichloromethane	BQL	20.0	103.6	84.7	53.3	146.7	20.1	30
Bromoform	BQL	20.0	82.5	67.8	62.6	137.4	19.5	30
Bromomethane	BQL	20.0	118.7	89.6	23.4	176.6	27.9	30
Carbon tetrachloride	BQL	20.0	122.2	102.4	>0	239.2	17.7	30
Chlorobenzene	BQL	20.0	106.6	85.7	41.5	158.5	21.7	30
Chloroethane	3	20.0	124.2	76.1	41.6	158.4	48.0 *	30
Chloroform	BQL	20.0	113.6	92.6	62.0	138.0	20.4	30
Chloromethane	BQL	20.0	134.8 *	95.3	71.1	128.9	34.3 *	30
Dibromochloromethane	BQL	20.0	92.8	76.6	63.3	136.7	19.1	30
1,2-Dibromoethane (EDB)	BQL	20.0	105.6	84.0	61.5	138.5	22.8	30
1,2-Dichlorobenzene	BQL	20.0	104.0	81.3	40.5	159.5	24.6	30
1,3-Dichlorobenzene	BQL	20.0	108.4	87.1	25.1	174.9	21.8	30
1,4-Dichlorobenzene	BQL	20.0	107.6	86.7	23.3	176.7	21.5	30
1,1-Dichloroethane	28	20.0	83.8	49.9	32.6	167.4	50.7 *	30
1,2-Dichloroethane	BQL	20.0	114.0	92.7	50.9	149.1	20.7	30
1,1-Dichloroethene	7	20.0	106.5	83.6	17.3	182.7	24.1	30
cis-1,2-Dichloroethene	93	20.0	0.0	0.0	>0	204.6	NA *	30
trans-1,2-Dichloroethene	BQL	20.0	113.5	92.7	25.1	174.9	20.2	30
1,2-Dichloropropane	BQL	20.0	112.8	92.0	38.3	161.7	20.4	30
cis-1,3-Dichloropropene	BQL	20.0	111.6	90.3	48.5	151.5	21.1	30
trans-1,3-Dichloropropene	BQL	20.0	110.8	89.6	59.7	140.3	21.1	30
Methylene Chloride	BQL	20.0	105.9	108.7	69.6	130.4	2.6	30
1,1,2,2-Tertrachloroethane	BQL	20.0	106.9	87.1	>0	241.2	20.5	30
Tetrachloroethene	BQL	20.0	119.4	98.0	>0	248.5	19.6	30
1,1,1-Trichloroethane	5	20.0	42.6	32.3	18.0	182.0	27.6	30
1,1,2-Trichloroethane	BQL	20.0	118.1	96.1	60.8	139.2	20.6	30
Trichloroethene	31	20.0	74.1	33.3 *	55.7	144.3	76.1 *	30
Trichlorofluoromethane	BQL	20.0	120.7	95.7	30.7	169.3	23.1	30
Vinyl Chloride	11	20.0	102.3	74.6	18.9	181.1	31.3 *	30

Comments:

Concentrations are on column amounts.

Flags:

* = Out of limits.
NA = Not applicable
BQL = Below quantitation limit.

Reviewed By: [illegible]

Results for Laboratory Control Spike (LCS)

by GC 601

Client Sample ID: LCS112096
Client Project ID: NC0360.212
Lab Sample ID: None assigned
Lab Project ID: G149-62

Analyst: WML
Date Collected: Not applicable
Date Received: Not applicable
Matrix: Water

	Spiked	LCS	Limits Lower	Limits Upper
Bromodichloromethane	20	118.1	8.1	191.9
Bromoform	20	113.0	18.5	181.5
Bromomethane	20	96.2	17.5	182.5
Carbon tetrachloride	20	119.5	15.2	184.8
Chlorobenzene	20	128.1	13.6	186.4
Chloroethane	20	93.0	13.6	186.4
Chloroform	20	129.2	7.4	192.6
Chloromethane	20	93.0	10.9	189.1
Dibromochloromethane	20	102.4	8.1	191.9
1,2-Dibromoethane (EDB)	20	115.2	>0	206.3
1,2-Dichlorobenzene	20	116.5	5.3	194.7
1,3-Dichlorobenzene	20	121.8	9.9	190.1
1,4-Dichlorobenzene	20	120.3	0.7	199.3
1,1-Dichloroethane	20	114.5	10.0	190.0
1,2-Dichloroethane	20	120.5	>0	203.0
1,1-Dichloroethene	20	102.5	16.4	183.6
cis-1,2-Dichloroethene	20	114.6	19.4	180.6
trans-1,2-Dichloroethene	20	116.6	11.7	188.3
1,2-Dichloropropane	20	126.5	9.7	190.3
cis-1,3-Dichloropropene	20	118.6	5.1	194.9
trans-1,3-Dichloropropene	20	117.9	8.5	191.5
Methylene Chloride	20	80.7	>0	261.9
1,1,2,2-Tertrachloroethane	20	76.8	>0	209.1
Tetrachloroethene	20	121.4	77.6	122.4
1,1,1-Trichloroethane	20	120.0	26.5	173.5
1,1,2-Trichloroethane	20	140.4	7.9	192.1
Trichloroethene	20	116.3	21.9	178.1
Trichlorofluromethane	20	125.4	6.8	193.2
Vinyl Chloride	20	111.5	14.5	185.5

Comments:

Concentration values are on column amount.

Flags:

* = Out of limits.
NA = Not applicable

Reviewed By: mh

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-2
Client Project ID: NC0360.212
Lab Sample ID: 17309
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/26/96	1	1	BQL
Diisopropyl ether (DIPE)	11/26/96	1	1	BQL
Ethylbenzene	11/26/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/26/96	1	2	4
Toluene	11/26/96	1	1	BQL
m/p-Xylene	11/26/96	1	2	BQL
o-Xylene	11/26/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:
All values corrected for dilution.

Flags:
BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-3
Client Project ID: NC0360.212
Lab Sample ID: 17310
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/26/96	1	1	BQL
Diisopropyl ether (DIPE)	11/26/96	1	1	BQL
Ethylbenzene	11/26/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/26/96	1	2	BQL
Toluene	11/26/96	1	1	BQL
m/p-Xylene	11/26/96	1	2	BQL
o-Xylene	11/26/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: mr

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-4
Client Project ID: NC0360.212
Lab Sample ID: 17311
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/96	1	1	BQL
Diisopropyl ether (DIPE)	11/27/96	1	1	BQL
Ethylbenzene	11/27/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/27/96	1	2	BQL
Toluene	11/27/96	1	1	BQL
m/p-Xylene	11/27/96	1	2	BQL
o-Xylene	11/27/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: MA

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-5
Client Project ID: NC0360.212
Lab Sample ID: 17312
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/96	1	1	BQL
Diisopropyl ether (DIPE)	11/27/96	1	1	BQL
Ethylbenzene	11/27/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/27/96	1	2	BQL
Toluene	11/27/96	1	1	BQL
m/p-Xylene	11/27/96	1	2	BQL
o-Xylene	11/27/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-6
Client Project ID: NC0360.212
Lab Sample ID: 17313
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/26/96	1	1	BQL
Diisopropyl ether (DIPE)	11/26/96	1	1	BQL
Ethylbenzene	11/26/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/26/96	1	2	BQL
Toluene	11/26/96	1	1	BQL
m/p-Xylene	11/26/96	1	2	BQL
o-Xylene	11/26/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:
All values corrected for dilution.

Flags:
BQL = Below quantitation limit

Reviewed By: Ma

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70REP-01-GW
Client Project ID: NC0360.212
Lab Sample ID: 17317
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/26/96	1	1	BQL
Diisopropyl ether (DIPE)	11/26/96	1	1	BQL
Ethylbenzene	11/26/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/26/96	1	2	BQL
Toluene	11/26/96	1	1	BQL
m/p-Xylene	11/26/96	1	2	BQL
o-Xylene	11/26/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: mr

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70EB-01-GW
Client Project ID: NC0360.212
Lab Sample ID: 17319
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/26/96	1	1	BQL
Diisopropyl ether (DIPE)	11/26/96	1	1	BQL
Ethylbenzene	11/26/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/26/96	1	2	BQL
Toluene	11/26/96	1	1	BQL
m/p-Xylene	11/26/96	1	2	BQL
o-Xylene	11/26/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70TB-01-(11/12/96)
Client Project ID: NC0360.212
Lab Sample ID: 17321
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/26/96	1	1	BQL
Diisopropyl ether (DIPE)	11/26/96	1	1	BQL
Ethylbenzene	11/26/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/26/96	1	2	BQL
Toluene	11/26/96	1	1	BQL
m/p-Xylene	11/26/96	1	2	BQL
o-Xylene	11/26/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	41	102

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK3112596
Lab Project ID: G149-62

Analyzed By: RNP
Date Collected: NA
Date Received: NA
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/25/96	1	1	BQL
Diisopropyl ether (DIPE)	11/25/96	1	1	BQL
Ethylbenzene	11/25/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/25/96	1	2	BQL
Toluene	11/25/96	1	1	BQL
m/p-Xylene	11/25/96	1	2	BQL
o-Xylene	11/25/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK3112796
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: NA
Date Received: NA
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/96	1	1	BQL
Diisopropyl ether (DIPE)	11/27/96	1	1	BQL
Ethylbenzene	11/27/96	1	1	BQL
Methyl-tert-butyl ether (MTBE)	11/27/96	1	2	BQL
Toluene	11/27/96	1	1	BQL
m/p-Xylene	11/27/96	1	2	BQL
o-Xylene	11/27/96	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

Results for MS/MSD
by GC 602

Client Sample ID: 70MW-6
Client Project ID: NC0360.212
Lab Sample ID: 17313, 17314, 17315
Lab Project ID: G149-62

Analyzed By: CKC
Date Collected: 11/12/96
Date Received: 11/14/96
Matrix: Water

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
Benzene	BQL	20.0	118.9	96.1	55.0	145.0	21.2	30
Diisopropyl ether	BQL	20.0	100.0	82.1	69.1	130.9	19.7	30
Ethylbenzene	BQL	20.0	118.4	97.9	42.9	157.1	19.0	30
Methyl-tert butyl ether	BQL	20.0	62.6	41.7	21.8	178.2	40.1 *	30
Toluene	BQL	20.0	104.5	85.2	50.4	149.6	20.3	30
m/p-Xylene	BQL	20.0	120.0	96.0	43.0	157.0	22.3	30
o-Xylene	BQL	20.0	104.1	80.0	63.1	136.9	26.2	30

Comments:

Concentrations are corrected for dry weight.

Flags:

* = Out of limits.
NA = Not applicable
BQL = Below quantitation limit.

Reviewed By: m

Results for Labortory Control Spike (LCS)

by GC 602

Client Sample ID: LCS112096
Client Project ID: NC0360.212
Lab Sample ID: None assigned
Lab Project ID: G149-62

Analyst: WML
Date Collected: Not applicable
Date Received: Not applicable
Matrix: Water

	Spiked	LCS	Limits Lower	Limits Upper
Benzene	20	109.0	41.6	158.4
Diisopropyl ether	20	101.8	30.1	169.9
Ethylbenzene	20	121.8	41.5	158.5
Methyl-tert butyl ether	20	89.5	34.6	165.4
Toluene	20	121.8	40.3	159.7
m/p-Xylene	40	121.3	>0	239.5
o-Xylene	20	104.6	35.6	164.4

Comments:

Concentration values are on column amount.

Flags:

* = Out of limits.
NA = Not applicable

Reviewed By: hm

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

LABORATORY TASK ORDER

Task Order No.: 20174

Geraghty & Miller Office: Raleigh, NC Phone: (919) 571-1662 Date: 11/6/96
Address: 2410 Plaza Pl. Ste 350 Project Number: NC0350.012.005
Raleigh, NC Laboratory Reporting Level: ☐ I ☒ II* ☐ III ☐ IV
Project Name: NC DOT # 70 Location: Lumberton, NC
Laboratory: Pariculum (PAL) Phone: (910) 550-1903 Contact: Mark Randall
Lab Provides Sample Containers? ☒ Yes ☐ No Date Required: 11/11/96 Ship To: G+M Raleigh, NC
Estimated Date Of Sample Receipt By Laboratory: 11/15/96 Report Due: 11/29/96
Reports Delivered To: G+M Raleigh Number Of Reports: 1
Work Description: Water Samples for USEPA Methods 601/602 + 8260B
Send Invoice To: G+M Raleigh

PHYSICAL PROPERTIES	# Water	Method	Det. Limit	# Soil	Method	Det. Limit	NON-METALLICS	# Water	Method	Det. Limit	# Soil	Method	Det. Limit
pH							Acidity						
Spec. Cond.							Alkalinity (Total)						
Hardness (total)							Carbonate						
TDS							Bicarbonate						
TSS							Bromide						
Temperature							Chloride						
Turbidity							Cyanide						
Ignitability							Fluoride						
Corrosivity							Ammonia						
Reactivity							Nitrate						
E.P. Tox. Extraction							TKN						
TCLP Extraction							Nitrite						
E.P. Tox. Complete							Phosphorus						
TCLP Complete							Silica						
METALS*							Sulfate						
Aluminum							Sulfide						
Antimony							Surfactants (MBAS)						
Arsenic							ORGANICS						
Barium							BOD						
Beryllium							COD						
Cadmium							Oil & Grease						
Calcium							TOC						
Chromium							TOC						
Hex Chromium							TRPH						
Copper							Purg. Halocarbons*						
Iron							Non-Halogenated VOCs*						
Lead							Purgeable Arom.*						
Magnesium							Phenols*						
Manganese							Pesticides/PCBs*						
Mercury							PNAs*						
Nickel							Org. Phos. Pest.*						
Potassium							Dioxins						
Selenium							Chloc-Herb* VOCs	7 Soil	8260B	1ppb			
Silver							Volatile Organics*	7 Soil	8260B	1ppb			
Sodium							Semi Volatile Organics*						
Thallium							APPENDIX IX*						
Tin							RADIONUCLIDES						
Vanadium							Gross Alpha						
Zinc							Gross Beta						
Priority Pollutant Metals*							Radium 226						
TCL (HSL) Metals*							Radium 228						

* Metals are Total Metals Unless Specified as Dissolved Under Special Instructions. # Attach Table of Elements or Compounds to be Analyzed. * Includes All Organic and Inorganic Compounds.

Special Instructions Or Other: Dissolved metals of any kind should be run on samples 7 + 5 for 601/602 and 7 + 5 for 8260B. Include with the results 1) Trip blank, 2) Rinse, 3) Blank, 4) Duplicate, 5) Equip. blank, and on extract the complete results

G&M Project Manager Signature: [signature] Date: 11/7/96 G&M QA Officer Signature: [signature] Date: 11-8-96
Laboratory Acceptance: _____ Date: _____

G&M Form 32

☐ No Changes

LABORATORY TASK ORDER AMENDMENTS

Required Change: _____

G&M Representative Signature: _____ Date: _____

RETURN YELLOW COPY TO PROJECT MANAGER OR QUALITY ASSURANCE OFFICER — ATTACH PINK COPY TO CHAIN OF CUSTODY FORM

FedEx, USA Airbill Tracking Number 7746376971

FedEx Retrieval Cop

278 500 2377948 1 528

1 From

Date 11/12/96 Sender's FedEx Account Number

Sender's Name Walt Plekan Phone 919, 571-1612

Company Geraghty & Miller Dept/Floor Suite/Room 350

Address 2810 Plaza Place

City Raleigh State NC Zip 27612

2 Your Internal Billing Reference Information UCC360.012.003 Hgd

3 To

Recipient's Name Phone (910)-350-1903

Company PARADIGM ANALYTICAL LABS Dept/Floor Suite/Room

Address (To "HOLD" at FedEx location print FedEx address here) 2527 NORTHCHASE PKWY SE

City WILMINGTON State NC Zip 28405

For "HOLD" Service check here
1 ☐ Weekday 31 ☐ Saturday (Not available at all locations) (Not available with FedEx First Overnight)

For Saturday Delivery check here
3 ☐ (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

7 7 4 6 3 7 6 9 7 1

4 Service*

1 ☐ FedEx Priority Overnight (Next business morning) 5 ☒ FedEx Standard Overnight (Next business afternoon) 2 ☐ FedEx 2Day (Second business...)
4 ☐ FedEx Govt. Overnight (Authorized user only) ☐
7 ☐ FedEx Overnight Freight 8 ☐ FedEx 2Day Freight (For packages over 150 pounds. Call for delivery schedule.)
6 ☐ NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply) *Delivery commitments may be later in some...

5 Packaging

6 ☐ FedEx Letter* 2 ☐ FedEx Pak* 3 ☐ FedEx Box 4 ☐ FedEx Tube 1 ☒ Other Packag...
*Declared value limit $500

6 Special Handling

Does this shipment contain dangerous goods? 4 ☐ Yes (As per attached Shipper's Declaration) ☐ Yes (Shipper's Dec. not required)
6 ☐ Dry Ice Dry Ice, 9, UN 1845 III ____ x ____ kg. (Dangerous Goods Shipper's Declaration not required) CA ☐ Cargo Aircraft Only

7 Payment

Bill to: 1 ☐ Sender (Account no. in section 1 will be used) 2 ☒ Recipient 3 ☐ Third Party 4 ☐ Credit Card 5 ☐ Co...
(Enter FedEx account no. or Credit Card no. below) ☐ Obtain Recipient FedEx Account

FedEx Account No. 1811-4189-1

Credit Card No. Exp. Date

Total Packages 1 Total Weight 30 Total Charges $

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information. Credit Card Auth...

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

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GERAGHTY & MILLER, INC.
Environmental Services
a heidemij company

Laboratory Task Order No. 20174

CHAIN-OF-CUSTODY RECORD

149-62

Page 1 of 1

Project Number NC0360.212

Project Location NCDOT Site #70 Lumberton NC.

Laboratory Paradigm

Sampler(s)/Affiliation Sean K. Patrick
GGM

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	601/602 4x40mL VOA vials pres. w/HCl @ 4°C	8260B 4x40mL VOA vials pres. w/HCl @ 4°C								TOTAL
70MW-1	L	11/12/96 1345			4								4
70MW-2	L	11/12/96 1030		4									4
70MW-3	L	11/12/96 1252		4									4
70MW-4	L	11/13/96 1038		4									4
70MW-5	L	11/13/96 1805		4									4
* 70MW-6	L	11/12/96 1540		4									4
70DW-1	L	11/12/96 1720			4								4
70REP-01-GW	L	11/12-13/96 —		4									4
70REP-02-GW	L	11/12/96 —			4								4
70EB-01-GW	L	11/12/96 1610		4									4
70EB-02-GW	L	11/12/96 ~~1540~~ 1450			4								4
70TB-01-(11/12/96)	L	11/12/96 —		4									4
70TB-02-(11/12/96)	L	11/12/96 —			4								4
												Total No. of Bottles/ Containers	52

Sample Code: L = Liquid; S = Solid; A = Air

Relinquished by: Sean K Patrick	Organization: Geraghty & Miller	Date 11/13/96	Time 1805	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: PARADIGM	Date 11/14/96	Time 9:35	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks: * @ 70MW-6 for Matrix Spike + Matrix Spike Duplicate analyses, additionally

Delivery Method: ☐ In Person ☒ Common Carrier Federal Express (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

Mr. Fred Rash
Geraghty & Miller
2840 Plaza Place
Raleigh,NC 27612

Date 12-03-96

RECEIVED
DEC - 4 1996
G & M RALEIGH

Report Number: G149-61

Client Project Number: NC0360.212
Project Location: Lumberton, NC Site #70
LTO Number: 20173

Dear Mr. Rash :

Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical service projects. We look forward to working with you again on any additional needs which you may have.

Sincerely,

Paradigm Analytical Laboratories

Laboratory Director
Mark Randall

CASE NARRATIVE FOR PROJECTS 149-61

LTO # 20173

SURROGATES:

149-61 - 8021

All within acceptance criteria

BLANKS:

149-61 - 8021

All blanks - all compounds BQL

MATRIX SPIKES/MATRIX SPIKE DUPLICATES:

149-61

8021 MS/MSD

7 compound failed acceptance criteria for recovery.
0 compounds failed RPD acceptance criteria (30%) .

8021 LCS

All compounds within acceptance criteria.

HOLDING TIME:

All samples analyzed within holding time

DILUTIONS:

See attached

COMMENTS:

All reported GC results were qualitatively confirmed by GC/MS.

Login Samples

PAL Proj#	lient Sample I	Lab ID	Report
G149-61	70SS-6-4	17299	8021
G149-61	70SS-7-4	17300	8021
G149-61	70SS-8-4	17301	8021
G149-61	70SS-9-4	17302	8021
G149-61	70SS-9-4MS	17303	8021
G149-61	70SS-9-4MS	17304	8021
G149-61	70REP-01-S	17305	8021
G149-61	70EB-01-SS	17306	8021
G149-61	70TB-01-(11	17307	8021

PARADIGM ANALYTICAL LABORATORIES, INC.

Date Pri 11/27/96

SAMPLES AND ASSOCIATED BLANK

SAMPLE ID		ASSOCIATED BLANK
	8021	
	PID	HALL
17299	VBLK11124	VBLK11126
17300	VBLK11122	VBLK11122
17301	VBLK11122	VBLK11122
17302	VBLK11124	VBLK11124
17305	VBLK11122	VBLK11122
17306	VBLK311279	VBLK311279
17307	VBLK311279	VBLK311279

Revised 12-24-96
Revision #122496

PARADIGM ANALYTICAL LABORATORIES, INC.

DILUTIONS 149-61

SAMPLE ID	8021
	NO DILUTIONS NECESSARY

Surrogate Recovery Limits

	6230D	8021
1,4-Dichlorobutane	85-120%	83-123%
Trifluorotoluene	85-122%	84-122%

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70SS-7-4
Client Project ID: NC0360.212
Lab Sample ID: 17300
Lab Project ID: G149-61 %Solids: 88.8

Analyzed By: WML
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	11/23/96	1	1.1	**1.2**
Bromobenzene	11/23/96	1	2.3	BQL
Bromochloromethane	11/23/96	1	1.1	BQL
Bromodichloromethane	11/23/96	1	1.1	BQL
Bromoform	11/23/96	1	2.3	**2.3**
Bromomethane	11/23/96	1	2.3	BQL
n-Butylbenzene	11/23/96	1	1.1	BQL
sec-Butylbenzene	11/23/96	1	1.1	BQL
tert-Butylbenzene	11/23/96	1	1.1	BQL
Carbon tetrachloride	11/23/96	1	1.1	BQL
Chlorobenzene	11/23/96	1	1.1	BQL
Chloroethane	11/23/96	1	1.1	BQL
Chloroform	11/23/96	1	1.1	BQL
Chloromethane	11/23/96	1	1.1	BQL
2-Chlorotoluene	11/23/96	1	1.1	BQL
4-Chlorotoluene	11/23/96	1	2.3	BQL
Dibromochloromethane	11/23/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	11/23/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	11/23/96	1	1.1	BQL
Dibromomethane	11/23/96	1	1.1	BQL
1,2-Dichlorobenzene	11/23/96	1	1.1	BQL
1,3-Dichlorobenzene	11/23/96	1	1.1	BQL
1,4-Dichlorobenzene	11/23/96	1	1.1	BQL
Dichlorodifluoromethane	11/23/96	1	5.6	BQL
1,1-Dichloroethane	11/23/96	1	1.1	BQL
1,2-Dichloroethane	11/23/96	1	1.1	BQL
1,1-Dichloroethene	11/23/96	1	1.1	BQL
cis-1,2-Dichloroethene	11/23/96	1	1.1	BQL
trans-1,2-Dichloroethene	11/23/96	1	1.1	BQL
1,2-Dichloropropane	11/23/96	1	1.1	BQL
2,2-Dichloropropane	11/23/96	1	2.3	BQL
cis-1,3-Dichloropropene	11/23/96	1	1.1	BQL
trans-1,3-Dichloropropene	11/23/96	1	1.1	BQL
Diisopropyl ether (DIPE)	11/23/96	1	1.1	BQL
Ethylbenzene	11/23/96	1	1.1	BQL
Hexachlorobutadiene	11/23/96	1	1.1	BQL
Isopropylbenzene	11/23/96	1	1.1	BQL
p-Isopropyltoluene	11/23/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	11/23/96	1	1.1	BQL
Methylene Chloride	11/23/96	1	5.6	BQL
Naphthalene	11/23/96	1	1.1	BQL
n-Propylbenzene	11/23/96	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70SS-7-4
Client Project ID: NC0360.212
Lab Sample ID: 17300
Lab Project ID: G149-61 %Solids: 88.8

Analyzed By: WML
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	11/23/96	1	2.3	BQL
1,1,1,2-Tertrachloroethane	11/23/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	11/23/96	1	1.1	BQL
Tetrachloroethene	11/23/96	1	1.1	BQL
Toluene	11/23/96	1	1.1	3.8
1,2,3-Trichlorobenzene	11/23/96	1	1.1	BQL
1,2,4-Trichlorobenzene	11/23/96	1	1.1	BQL
1,1,1-Trichloroethane	11/23/96	1	1.1	BQL
1,1,2-Trichloroethane	11/23/96	1	1.1	BQL
Trichloroethene	11/23/96	1	1.1	BQL
Trichlorofluromethane	11/23/96	1	1.1	BQL
1,2,3-Trichloropropane	11/23/96	1	2.3	BQL
1,2,4-Trimethylbenzene	11/23/96	1	1.1	BQL
1,3,5-Trimethylbenzene	11/23/96	1	2.3	BQL
Vinyl Chloride	11/23/96	1	1.1	BQL
m/p-Xylene	11/23/96	1	2.3	BQL
o-Xylene	11/23/96	1	2.3	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	44	110
Trifluorotoluene	40	37	92

Comments:

All values corrected for dilution and %solids.

Reviewed By: JWC

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70SS-8-4
Client Project ID: NC0360.212
Lab Sample ID: 17301
Lab Project ID: G149-61 %Solids: 95.8

Analyzed By: WML
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	11/23/96	1	1.0	BQL
Bromobenzene	11/23/96	1	2.1	BQL
Bromochloromethane	11/23/96	1	1.0	BQL
Bromodichloromethane	11/23/96	1	1.0	BQL
Bromoform	11/23/96	1	2.1	BQL
Bromomethane	11/23/96	1	2.1	BQL
n-Butylbenzene	11/23/96	1	1.0	BQL
sec-Butylbenzene	11/23/96	1	1.0	BQL
tert-Butylbenzene	11/23/96	1	1.0	BQL
Carbon tetrachloride	11/23/96	1	1.0	BQL
Chlorobenzene	11/23/96	1	1.0	BQL
Chloroethane	11/23/96	1	1.0	BQL
Chloroform	11/23/96	1	1.0	BQL
Chloromethane	11/23/96	1	1.0	BQL
2-Chlorotoluene	11/23/96	1	1.0	BQL
4-Chlorotoluene	11/23/96	1	2.1	BQL
Dibromochloromethane	11/23/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	11/23/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	11/23/96	1	1.0	BQL
Dibromomethane	11/23/96	1	1.0	BQL
1,2-Dichlorobenzene	11/23/96	1	1.0	BQL
1,3-Dichlorobenzene	11/23/96	1	1.0	BQL
1,4-Dichlorobenzene	11/23/96	1	1.0	BQL
Dichlorodifluoromethane	11/23/96	1	5.2	BQL
1,1-Dichloroethane	11/23/96	1	1.0	BQL
1,2-Dichloroethane	11/23/96	1	1.0	BQL
1,1-Dichloroethene	11/23/96	1	1.0	BQL
cis-1,2-Dichloroethene	11/23/96	1	1.0	BQL
trans-1,2-Dichloroethene	11/23/96	1	1.0	BQL
1,2-Dichloropropane	11/23/96	1	1.0	BQL
2,2-Dichloropropane	11/23/96	1	2.1	BQL
cis-1,3-Dichloropropene	11/23/96	1	1.0	BQL
trans-1,3-Dichloropropene	11/23/96	1	1.0	BQL
Diisopropyl ether (DIPE)	11/23/96	1	1.0	BQL
Ethylbenzene	11/23/96	1	1.0	BQL
Hexachlorobutadiene	11/23/96	1	1.0	BQL
Isopropylbenzene	11/23/96	1	1.0	BQL
p-Isopropyltoluene	11/23/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	11/23/96	1	1.0	BQL
Methylene Chloride	11/23/96	1	5.2	BQL
Naphthalene	11/23/96	1	1.0	BQL
n-Propylbenzene	11/23/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70SS-8-4
Client Project ID: NC0360.212
Lab Sample ID: 17301
Lab Project ID: G149-61 %Solids: 95.8

Analyzed By: WML
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	11/23/96	1	2.1	BQL
1,1,1,2-Tertrachloroethane	11/23/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	11/23/96	1	1.0	BQL
Tetrachloroethene	11/23/96	1	1.0	BQL
Toluene	11/23/96	1	1.0	BQL
1,2,3-Trichlorobenzene	11/23/96	1	1.0	BQL
1,2,4-Trichlorobenzene	11/23/96	1	1.0	BQL
1,1,1-Trichloroethane	11/23/96	1	1.0	BQL
1,1,2-Trichloroethane	11/23/96	1	1.0	BQL
Trichloroethene	11/23/96	1	1.0	BQL
Trichlorofluromethane	11/23/96	1	1.0	BQL
1,2,3-Trichloropropane	11/23/96	1	2.1	BQL
1,2,4-Trimethylbenzene	11/23/96	1	1.0	BQL
1,3,5-Trimethylbenzene	11/23/96	1	2.1	BQL
Vinyl Chloride	11/23/96	1	1.0	BQL
m/p-Xylene	11/23/96	1	2.1	BQL
o-Xylene	11/23/96	1	2.1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	44	110
Trifluorotoluene	40	37	92

Comments:

All values corrected for dilution and %solids.

Reviewed By: MN

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70SS-9-4
Client Project ID: NC0360.212
Lab Sample ID: 17302
Lab Project ID: G149-61 %Solids: 94.8

Analyzed By: RNP
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	11/24/96	1	1.1	BQL
Bromobenzene	11/24/96	1	2.1	BQL
Bromochloromethane	11/24/96	1	1.1	BQL
Bromodichloromethane	11/24/96	1	1.1	BQL
Bromoform	11/24/96	1	2.1	BQL
Bromomethane	11/24/96	1	2.1	BQL
n-Butylbenzene	11/24/96	1	1.1	BQL
sec-Butylbenzene	11/24/96	1	1.1	BQL
tert-Butylbenzene	11/24/96	1	1.1	BQL
Carbon tetrachloride	11/24/96	1	1.1	BQL
Chlorobenzene	11/24/96	1	1.1	BQL
Chloroethane	11/24/96	1	1.1	BQL
Chloroform	11/24/96	1	1.1	BQL
Chloromethane	11/24/96	1	1.1	BQL
2-Chlorotoluene	11/24/96	1	1.1	BQL
4-Chlorotoluene	11/24/96	1	2.1	BQL
Dibromochloromethane	11/24/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	11/24/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	11/24/96	1	1.1	BQL
Dibromomethane	11/24/96	1	1.1	BQL
1,2-Dichlorobenzene	11/24/96	1	1.1	BQL
1,3-Dichlorobenzene	11/24/96	1	1.1	BQL
1,4-Dichlorobenzene	11/24/96	1	1.1	BQL
Dichlorodifluoromethane	11/24/96	1	5.3	BQL
1,1-Dichloroethane	11/24/96	1	1.1	BQL
1,2-Dichloroethane	11/24/96	1	1.1	BQL
1,1-Dichloroethene	11/24/96	1	1.1	BQL
cis-1,2-Dichloroethene	11/24/96	1	1.1	BQL
trans-1,2-Dichloroethene	11/24/96	1	1.1	BQL
1,2-Dichloropropane	11/24/96	1	1.1	BQL
2,2-Dichloropropane	11/24/96	1	2.1	BQL
cis-1,3-Dichloropropene	11/24/96	1	1.1	BQL
trans-1,3-Dichloropropene	11/24/96	1	1.1	BQL
Diisopropyl ether (DIPE)	11/24/96	1	1.1	BQL
Ethylbenzene	11/24/96	1	1.1	BQL
Hexachlorobutadiene	11/24/96	1	1.1	BQL
Isopropylbenzene	11/24/96	1	1.1	BQL
p-Isopropyltoluene	11/24/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	11/24/96	1	1.1	BQL
Methylene Chloride	11/24/96	1	5.3	BQL
Naphthalene	11/24/96	1	1.1	BQL
n-Propylbenzene	11/24/96	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70SS-9-4
Client Project ID: NC0360.212
Lab Sample ID: 17302
Lab Project ID: G149-61 %Solids: 94.8

Analyzed By: RNP
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	11/24/96	1	2.1	BQL
1,1,1,2-Tertrachloroethane	11/24/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	11/24/96	1	1.1	BQL
Tetrachloroethene	11/24/96	1	1.1	BQL
Toluene	11/24/96	1	1.1	BQL
1,2,3-Trichlorobenzene	11/24/96	1	1.1	BQL
1,2,4-Trichlorobenzene	11/24/96	1	1.1	BQL
1,1,1-Trichloroethane	11/24/96	1	1.1	BQL
1,1,2-Trichloroethane	11/24/96	1	1.1	BQL
Trichloroethene	11/24/96	1	1.1	BQL
Trichlorofluromethane	11/24/96	1	1.1	BQL
1,2,3-Trichloropropane	11/24/96	1	2.1	BQL
1,2,4-Trimethylbenzene	11/24/96	1	1.1	BQL
1,3,5-Trimethylbenzene	11/24/96	1	2.1	BQL
Vinyl Chloride	11/24/96	1	1.1	BQL
m/p-Xylene	11/24/96	1	2.1	BQL
o-Xylene	11/24/96	1	2.1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	44	110
Trifluorotoluene	40	37	92

Comments:

All values corrected for dilution and %solids.

Reviewed By: [illegible]

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70SS-10-4
Client Project ID: NC0360.212
Lab Sample ID: 17299
Lab Project ID: G149-61 %Solids: 91.7

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	1/7/97	1	1.1	**2.1**
Bromobenzene	1/7/97	1	2.2	BQL
Bromochloromethane	1/7/97	1	1.1	BQL
Bromodichloromethane	1/7/97	1	1.1	BQL
Bromoform	1/7/97	1	2.2	BQL
Bromomethane	1/7/97	1	2.2	BQL
n-Butylbenzene	1/7/97	1	1.1	BQL
sec-Butylbenzene	1/7/97	1	1.1	BQL
tert-Butylbenzene	1/7/97	1	1.1	BQL
Carbon tetrachloride	1/7/97	1	1.1	BQL
Chlorobenzene	1/7/97	1	1.1	BQL
Chloroethane	1/7/97	1	1.1	BQL
Chloroform	1/7/97	1	1.1	BQL
Chloromethane	1/7/97	1	1.1	BQL
2-Chlorotoluene	1/7/97	1	1.1	BQL
4-Chlorotoluene	1/7/97	1	2.2	BQL
Dibromochloromethane	1/7/97	1	1.1	BQL
1,2-Dibromo-3-chloropropane	1/7/97	1	1.1	BQL
1,2-Dibromoethane (EDB)	1/7/97	1	1.1	BQL
Dibromomethane	1/7/97	1	1.1	BQL
1,2-Dichlorobenzene	1/7/97	1	1.1	BQL
1,3-Dichlorobenzene	1/7/97	1	1.1	BQL
1,4-Dichlorobenzene	1/7/97	1	1.1	BQL
Dichlorodifluoromethane	1/7/97	1	5.5	BQL
1,1-Dichloroethane	1/7/97	1	1.1	BQL
1,2-Dichloroethane	1/7/97	1	1.1	BQL
1,1-Dichloroethene	1/7/97	1	1.1	BQL
cis-1,2-Dichloroethene	1/7/97	1	1.1	BQL
trans-1,2-Dichloroethene	1/7/97	1	1.1	BQL
1,2-Dichloropropane	1/7/97	1	1.1	BQL
2,2-Dichloropropane	1/7/97	1	2.2	BQL
cis-1,3-Dichloropropene	1/7/97	1	1.1	BQL
trans-1,3-Dichloropropene	1/7/97	1	1.1	BQL
Diisopropyl ether (DIPE)	1/7/97	1	1.1	BQL
Ethylbenzene	1/7/97	1	1.1	BQL
Hexachlorobutadiene	1/7/97	1	1.1	BQL
Isopropylbenzene	1/7/97	1	1.1	BQL
p-Isopropyltoluene	1/7/97	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	1/7/97	1	1.1	BQL
Methylene Chloride	1/7/97	1	5.5	BQL
Naphthalene	1/7/97	1	1.1	BQL
n-Propylbenzene	1/7/97	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70SS-10-4
Client Project ID: NC0360.212
Lab Sample ID: 17299
Lab Project ID: G149-61 %Solids: 91.7

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	1/7/97	1	2.2	BQL
1,1,1,2-Tertrachloroethane	1/7/97	1	1.1	BQL
1,1,2,2-Tertrachloroethane	1/7/97	1	1.1	BQL
Tetrachloroethene	1/7/97	1	1.1	BQL
Toluene	1/7/97	1	1.1	**4.5**
1,2,3-Trichlorobenzene	1/7/97	1	1.1	BQL
1,2,4-Trichlorobenzene	1/7/97	1	1.1	BQL
1,1,1-Trichloroethane	1/7/97	1	1.1	BQL
1,1,2-Trichloroethane	1/7/97	1	1.1	BQL
Trichloroethene	1/7/97	1	1.1	BQL
Trichloroflurometh ane	1/7/97	1	1.1	BQL
1,2,3-Trichloropropane	1/7/97	1	2.2	BQL
1,2,4-Trimethylbenzene	1/7/97	1	1.1	BQL
1,3,5-Trimethylbenzene	1/7/97	1	2.2	BQL
Vinyl Chloride	1/7/97	1	1.1	BQL
m/p-Xylene	1/7/97	1	2.2	BQL
o-Xylene	1/7/97	1	2.2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	44	110
Trifluorotoluene	40	37	92

Comments:
All values corrected for dilution and %solids.

Reviewed By: RNP

Revision: 02039701
Revision Date: 2/3/97

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70REP-01-SS
Client Project ID: NC0360.212
Lab Sample ID: 17305
Lab Project ID: G149-61 %Solids: 91.4

Analyzed By: WML
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	11/22/96	1	1.1	BQL
Bromobenzene	11/22/96	1	2.2	BQL
Bromochloromethane	11/22/96	1	1.1	BQL
Bromodichloromethane	11/22/96	1	1.1	BQL
Bromoform	11/22/96	1	2.2	BQL
Bromomethane	11/22/96	1	2.2	BQL
n-Butylbenzene	11/22/96	1	1.1	BQL
sec-Butylbenzene	11/22/96	1	1.1	BQL
tert-Butylbenzene	11/22/96	1	1.1	BQL
Carbon tetrachloride	11/22/96	1	1.1	BQL
Chlorobenzene	11/22/96	1	1.1	BQL
Chloroethane	11/22/96	1	1.1	BQL
Chloroform	11/22/96	1	1.1	BQL
Chloromethane	11/22/96	1	1.1	BQL
2-Chlorotoluene	11/22/96	1	1.1	BQL
4-Chlorotoluene	11/22/96	1	2.2	BQL
Dibromochloromethane	11/22/96	1	1.1	BQL
1,2-Dibromo-3-chloropropane	11/22/96	1	1.1	BQL
1,2-Dibromoethane (EDB)	11/22/96	1	1.1	BQL
Dibromomethane	11/22/96	1	1.1	BQL
1,2-Dichlorobenzene	11/22/96	1	1.1	BQL
1,3-Dichlorobenzene	11/22/96	1	1.1	BQL
1,4-Dichlorobenzene	11/22/96	1	1.1	BQL
Dichlorodifluoromethane	11/22/96	1	5.5	BQL
1,1-Dichloroethane	11/22/96	1	1.1	BQL
1,2-Dichloroethane	11/22/96	1	1.1	BQL
1,1-Dichloroethene	11/22/96	1	1.1	BQL
cis-1,2-Dichloroethene	11/22/96	1	1.1	BQL
trans-1,2-Dichloroethene	11/22/96	1	1.1	BQL
1,2-Dichloropropane	11/22/96	1	1.1	BQL
2,2-Dichloropropane	11/22/96	1	2.2	BQL
cis-1,3-Dichloropropene	11/22/96	1	1.1	BQL
trans-1,3-Dichloropropene	11/22/96	1	1.1	BQL
Diisopropyl ether (DIPE)	11/22/96	1	1.1	BQL
Ethylbenzene	11/22/96	1	1.1	BQL
Hexachlorobutadiene	11/22/96	1	1.1	BQL
Isopropylbenzene	11/22/96	1	1.1	BQL
p-Isopropyltoluene	11/22/96	1	1.1	BQL
Methyl-tert butyl ether (MTBE)	11/22/96	1	1.1	BQL
Methylene Chloride	11/22/96	1	5.5	BQL
Naphthalene	11/22/96	1	1.1	2.4
n-Propylbenzene	11/22/96	1	1.1	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70REP-01-SS
Client Project ID: NC0360.212
Lab Sample ID: 17305
Lab Project ID: G149-61 %Solids: 91.4

Analyzed By: WML
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	11/22/96	1	2.2	BQL
1,1,1,2-Tertrachloroethane	11/22/96	1	1.1	BQL
1,1,2,2-Tertrachloroethane	11/22/96	1	1.1	BQL
Tetrachloroethene	11/22/96	1	1.1	BQL
Toluene	11/22/96	1	1.1	BQL
1,2,3-Trichlorobenzene	11/22/96	1	1.1	BQL
1,2,4-Trichlorobenzene	11/22/96	1	1.1	BQL
1,1,1-Trichloroethane	11/22/96	1	1.1	BQL
1,1,2-Trichloroethane	11/22/96	1	1.1	BQL
Trichloroethene	11/22/96	1	1.1	BQL
Trichloroflurometh ane	11/22/96	1	1.1	BQL
1,2,3-Trichloropropane	11/22/96	1	2.2	BQL
1,2,4-Trimethylbenzene	11/22/96	1	1.1	BQL
1,3,5-Trimethylbenzene	11/22/96	1	2.2	BQL
Vinyl Chloride	11/22/96	1	1.1	BQL
m/p-Xylene	11/22/96	1	2.2	BQL
o-Xylene	11/22/96	1	2.2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	44	110
Trifluorotoluene	40	41	102

Comments:
All values corrected for dilution and %solids.

Reviewed By: MW

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70EB-01-SS
Client Project ID: NC0360.212
Lab Sample ID: 17306
Lab Project ID: G149-61

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/96	1	1.0	BQL
Bromobenzene	11/27/96	1	2.0	BQL
Bromochloromethane	11/27/96	1	1.0	BQL
Bromodichloromethane	11/27/96	1	1.0	BQL
Bromoform	11/27/96	1	2.0	BQL
Bromomethane	11/27/96	1	2.0	BQL
n-Butylbenzene	11/27/96	1	1.0	BQL
sec-Butylbenzene	11/27/96	1	1.0	BQL
tert-Butylbenzene	11/27/96	1	1.0	BQL
Carbon tetrachloride	11/27/96	1	1.0	BQL
Chlorobenzene	11/27/96	1	1.0	BQL
Chloroethane	11/27/96	1	1.0	BQL
Chloroform	11/27/96	1	1.0	BQL
Chloromethane	11/27/96	1	1.0	BQL
2-Chlorotoluene	11/27/96	1	1.0	BQL
4-Chlorotoluene	11/27/96	1	2.0	BQL
Dibromochloromethane	11/27/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	11/27/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	11/27/96	1	1.0	BQL
Dibromomethane	11/27/96	1	1.0	BQL
1,2-Dichlorobenzene	11/27/96	1	1.0	BQL
1,3-Dichlorobenzene	11/27/96	1	1.0	BQL
1,4-Dichlorobenzene	11/27/96	1	1.0	BQL
Dichlorodifluoromethane	11/27/96	1	5.0	BQL
1,1-Dichloroethane	11/27/96	1	1.0	BQL
1,2-Dichloroethane	11/27/96	1	1.0	BQL
1,1-Dichloroethene	11/27/96	1	1.0	BQL
cis-1,2-Dichloroethene	11/27/96	1	1.0	BQL
trans-1,2-Dichloroethene	11/27/96	1	1.0	BQL
1,2-Dichloropropane	11/27/96	1	1.0	BQL
2,2-Dichloropropane	11/27/96	1	2.0	BQL
cis-1,3-Dichloropropene	11/27/96	1	1.0	BQL
trans-1,3-Dichloropropene	11/27/96	1	1.0	BQL
Diisopropyl ether (DIPE)	11/27/96	1	1.0	BQL
Ethylbenzene	11/27/96	1	1.0	BQL
Hexachlorobutadiene	11/27/96	1	1.0	BQL
Isopropylbenzene	11/27/96	1	1.0	BQL
p-Isopropyltoluene	11/27/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	11/27/96	1	1.0	BQL
Methylene Chloride	11/27/96	1	5.0	BQL
Naphthalene	11/27/96	1	1.0	BQL
n-Propylbenzene	11/27/96	1	1.0	BQL

Flags:

BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70EB-01-SS
Client Project ID: NC0360.212
Lab Sample ID: 17306
Lab Project ID: G149-61

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	11/27/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	11/27/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	11/27/96	1	1.0	BQL
Tetrachloroethene	11/27/96	1	1.0	BQL
Toluene	11/27/96	1	1.0	BQL
1,2,3-Trichlorobenzene	11/27/96	1	1.0	BQL
1,2,4-Trichlorobenzene	11/27/96	1	1.0	BQL
1,1,1-Trichloroethane	11/27/96	1	1.0	BQL
1,1,2-Trichloroethane	11/27/96	1	1.0	BQL
Trichloroethene	11/27/96	1	1.0	BQL
Trichlorofluromethane	11/27/96	1	1.0	BQL
1,2,3-Trichloropropane	11/27/96	1	2.0	BQL
1,2,4-Trimethylbenzene	11/27/96	1	1.0	BQL
1,3,5-Trimethylbenzene	11/27/96	1	2.0	BQL
Vinyl Chloride	11/27/96	1	1.0	BQL
m/p-Xylene	11/27/96	1	2.0	BQL
o-Xylene	11/27/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	44	110
Trifluorotoluene	40	37	92

Comments:
All values corrected for dilution.

Reviewed By: wm

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70TB-01-(11/13/96)
Client Project ID: NC0360.212
Lab Sample ID: 17307
Lab Project ID: G149-61

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/96	1	1.0	BQL
Bromobenzene	11/27/96	1	2.0	BQL
Bromochloromethane	11/27/96	1	1.0	BQL
Bromodichloromethane	11/27/96	1	1.0	BQL
Bromoform	11/27/96	1	2.0	BQL
Bromomethane	11/27/96	1	2.0	BQL
n-Butylbenzene	11/27/96	1	1.0	BQL
sec-Butylbenzene	11/27/96	1	1.0	BQL
tert-Butylbenzene	11/27/96	1	1.0	BQL
Carbon tetrachloride	11/27/96	1	1.0	BQL
Chlorobenzene	11/27/96	1	1.0	BQL
Chloroethane	11/27/96	1	1.0	BQL
Chloroform	11/27/96	1	1.0	BQL
Chloromethane	11/27/96	1	1.0	BQL
2-Chlorotoluene	11/27/96	1	1.0	BQL
4-Chlorotoluene	11/27/96	1	2.0	BQL
Dibromochloromethane	11/27/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	11/27/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	11/27/96	1	1.0	BQL
Dibromomethane	11/27/96	1	1.0	BQL
1,2-Dichlorobenzene	11/27/96	1	1.0	BQL
1,3-Dichlorobenzene	11/27/96	1	1.0	BQL
1,4-Dichlorobenzene	11/27/96	1	1.0	BQL
Dichlorodifluoromethane	11/27/96	1	5.0	BQL
1,1-Dichloroethane	11/27/96	1	1.0	BQL
1,2-Dichloroethane	11/27/96	1	1.0	BQL
1,1-Dichloroethene	11/27/96	1	1.0	BQL
cis-1,2-Dichloroethene	11/27/96	1	1.0	BQL
trans-1,2-Dichloroethene	11/27/96	1	1.0	BQL
1,2-Dichloropropane	11/27/96	1	1.0	BQL
2,2-Dichloropropane	11/27/96	1	2.0	BQL
cis-1,3-Dichloropropene	11/27/96	1	1.0	BQL
trans-1,3-Dichloropropene	11/27/96	1	1.0	BQL
Diisopropyl ether (DIPE)	11/27/96	1	1.0	BQL
Ethylbenzene	11/27/96	1	1.0	BQL
Hexachlorobutadiene	11/27/96	1	1.0	BQL
Isopropylbenzene	11/27/96	1	1 0	BQL
p-Isopropyltoluene	11/27/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	11/27/96	1	1.0	BQL
Methylene Chloride	11/27/96	1	5.0	BQL
Naphthalene	11/27/96	1	1.0	BQL
n-Propylbenzene	11/27/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: 70TB-01-(11/13/96)
Client Project ID: NC0360.212
Lab Sample ID: 17307
Lab Project ID: G149-61

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	11/27/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	11/27/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	11/27/96	1	1.0	BQL
Tetrachloroethene	11/27/96	1	1.0	BQL
Toluene	11/27/96	1	1.0	BQL
1,2,3-Trichlorobenzene	11/27/96	1	1.0	BQL
1,2,4-Trichlorobenzene	11/27/96	1	1.0	BQL
1,1,1-Trichloroethane	11/27/96	1	1.0	BQL
1,1,2-Trichloroethane	11/27/96	1	1.0	BQL
Trichloroethene	11/27/96	1	1.0	BQL
Trichlorofluromethane	11/27/96	1	1.0	BQL
1,2,3-Trichloropropane	11/27/96	1	2.0	BQL
1,2,4-Trimethylbenzene	11/27/96	1	1.0	BQL
1,3,5-Trimethylbenzene	11/27/96	1	2.0	BQL
Vinyl Chloride	11/27/96	1	1.0	BQL
m/p-Xylene	11/27/96	1	2.0	BQL
o-Xylene	11/27/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	44	110
Trifluorotoluene	40	37	92

Comments:
All values corrected for dilution.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK11122
Lab Project ID: G149-61 %Solids: 100.0

Analyzed By: WML
Date Collected: NA
Date Received: NA
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	11/22/96	1	1.0	BQL
Bromobenzene	11/22/96	1	2.0	BQL
Bromochloromethane	11/22/96	1	1.0	BQL
Bromodichloromethane	11/22/96	1	1.0	BQL
Bromoform	11/22/96	1	2.0	BQL
Bromomethane	11/22/96	1	2.0	BQL
n-Butylbenzene	11/22/96	1	1.0	BQL
sec-Butylbenzene	11/22/96	1	1.0	BQL
tert-Butylbenzene	11/22/96	1	1.0	BQL
Carbon tetrachloride	11/22/96	1	1.0	BQL
Chlorobenzene	11/22/96	1	1.0	BQL
Chloroethane	11/22/96	1	1.0	BQL
Chloroform	11/22/96	1	1.0	BQL
Chloromethane	11/22/96	1	1.0	BQL
2-Chlorotoluene	11/22/96	1	1.0	BQL
4-Chlorotoluene	11/22/96	1	2.0	BQL
Dibromochloromethane	11/22/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	11/22/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	11/22/96	1	1.0	BQL
Dibromomethane	11/22/96	1	1.0	BQL
1,2-Dichlorobenzene	11/22/96	1	1.0	BQL
1,3-Dichlorobenzene	11/22/96	1	1.0	BQL
1,4-Dichlorobenzene	11/22/96	1	1.0	BQL
Dichlorodifluoromethane	11/22/96	1	5.0	BQL
1,1-Dichloroethane	11/22/96	1	1.0	BQL
1,2-Dichloroethane	11/22/96	1	1.0	BQL
1,1-Dichloroethene	11/22/96	1	1.0	BQL
cis-1,2-Dichloroethene	11/22/96	1	1.0	BQL
trans-1,2-Dichloroethene	11/22/96	1	1.0	BQL
1,2-Dichloropropane	11/22/96	1	1.0	BQL
2,2-Dichloropropane	11/22/96	1	2.0	BQL
cis-1,3-Dichloropropene	11/22/96	1	1.0	BQL
trans-1,3-Dichloropropene	11/22/96	1	1.0	BQL
Diisopropyl ether (DIPE)	11/22/96	1	1.0	BQL
Ethylbenzene	11/22/96	1	1.0	BQL
Hexachlorobutadiene	11/22/96	1	1.0	BQL
Isopropylbenzene	11/22/96	1	1.0	BQL
p-Isopropyltoluene	11/22/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	11/22/96	1	1.0	BQL
Methylene Chloride	11/22/96	1	5.0	BQL
Naphthalene	11/22/96	1	1.0	BQL
n-Propylbenzene	11/22/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK11122
Lab Project ID: G149-61 %Solids: 100.0

Analyzed By: WML
Date Collected: NA
Date Received: NA
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	11/22/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	11/22/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	11/22/96	1	1.0	BQL
Tetrachloroethene	11/22/96	1	1.0	BQL
Toluene	11/22/96	1	1.0	BQL
1,2,3-Trichlorobenzene	11/22/96	1	1.0	BQL
1,2,4-Trichlorobenzene	11/22/96	1	1.0	BQL
1,1,1-Trichloroethane	11/22/96	1	1.0	BQL
1,1,2-Trichloroethane	11/22/96	1	1.0	BQL
Trichloroethene	11/22/96	1	1.0	BQL
Trichloroflurometh ane	11/22/96	1	1.0	BQL
1,2,3-Trichloropropane	11/22/96	1	2.0	BQL
1,2,4-Trimethylbenzene	11/22/96	1	1.0	BQL
1,3,5-Trimethylbenzene	11/22/96	1	2.0	BQL
Vinyl Chloride	11/22/96	1	1.0	BQL
m/p-Xylene	11/22/96	1	2.0	BQL
o-Xylene	11/22/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	40	100
Trifluorotoluene	40	40	100

Comments:
All values corrected for dilution and %solids.

Reviewed By: WM

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK11124
Lab Project ID: G149-61 %Solids: 100.0

Analyzed By: WML
Date Collected: NA
Date Received: NA
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	11/24/96	1	1.0	BQL
Bromobenzene	11/24/96	1	2.0	BQL
Bromochloromethane	11/24/96	1	1.0	BQL
Bromodichloromethane	11/24/96	1	1.0	BQL
Bromoform	11/24/96	1	2.0	BQL
Bromomethane	11/24/96	1	2.0	BQL
n-Butylbenzene	11/24/96	1	1.0	BQL
sec-Butylbenzene	11/24/96	1	1.0	BQL
tert-Butylbenzene	11/24/96	1	1.0	BQL
Carbon tetrachloride	11/24/96	1	1.0	BQL
Chlorobenzene	11/24/96	1	1.0	BQL
Chloroethane	11/24/96	1	1.0	BQL
Chloroform	11/24/96	1	1.0	BQL
Chloromethane	11/24/96	1	1.0	BQL
2-Chlorotoluene	11/24/96	1	1.0	BQL
4-Chlorotoluene	11/24/96	1	2.0	BQL
Dibromochloromethane	11/24/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	11/24/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	11/24/96	1	1.0	BQL
Dibromomethane	11/24/96	1	1.0	BQL
1,2-Dichlorobenzene	11/24/96	1	1.0	BQL
1,3-Dichlorobenzene	11/24/96	1	1.0	BQL
1,4-Dichlorobenzene	11/24/96	1	1.0	BQL
Dichlorodifluoromethane	11/24/96	1	5.0	BQL
1,1-Dichloroethane	11/24/96	1	1.0	BQL
1,2-Dichloroethane	11/24/96	1	1.0	BQL
1,1-Dichloroethene	11/24/96	1	1.0	BQL
cis-1,2-Dichloroethene	11/24/96	1	1.0	BQL
trans-1,2-Dichloroethene	11/24/96	1	1.0	BQL
1,2-Dichloropropane	11/24/96	1	1.0	BQL
2,2-Dichloropropane	11/24/96	1	2.0	BQL
cis-1,3-Dichloropropene	11/24/96	1	1.0	BQL
trans-1,3-Dichloropropene	11/24/96	1	1.0	BQL
Diisopropyl ether (DIPE)	11/24/96	1	1.0	BQL
Ethylbenzene	11/24/96	1	1.0	BQL
Hexachlorobutadiene	11/24/96	1	1.0	BQL
Isopropylbenzene	11/24/96	1	1.0	BQL
p-Isopropyltoluene	11/24/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	11/24/96	1	1.0	BQL
Methylene Chloride	11/24/96	1	5.0	BQL
Naphthalene	11/24/96	1	1.0	BQL
n-Propylbenzene	11/24/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK11124
Lab Project ID: G149-61 %Solids: 100.0

Analyzed By: WML
Date Collected: NA
Date Received: NA
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	11/24/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	11/24/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	11/24/96	1	1.0	BQL
Tetrachloroethene	11/24/96	1	1.0	BQL
Toluene	11/24/96	1	1.0	BQL
1,2,3-Trichlorobenzene	11/24/96	1	1.0	BQL
1,2,4-Trichlorobenzene	11/24/96	1	1.0	BQL
1,1,1-Trichloroethane	11/24/96	1	1.0	BQL
1,1,2-Trichloroethane	11/24/96	1	1.0	BQL
Trichloroethene	11/24/96	1	1.0	BQL
Trichloroflurometh ane	11/24/96	1	1.0	BQL
1,2,3-Trichloropropane	11/24/96	1	2.0	BQL
1,2,4-Trimethylbenzene	11/24/96	1	1.0	BQL
1,3,5-Trimethylbenzene	11/24/96	1	2.0	BQL
Vinyl Chloride	11/24/96	1	1.0	BQL
m/p-Xylene	11/24/96	1	2.0	BQL
o-Xylene	11/24/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	43.2	108
Trifluorotoluene	40	42.4	106

Comments:
All values corrected for dilution and %solids.

Reviewed By: lm

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK11126
Lab Project ID: G149-61 %Solids: 100.0

Analyzed By: WML
Date Collected: NA
Date Received: NA
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Benzene	11/26/96	1	1.0	BQL
Bromobenzene	11/26/96	1	2.0	BQL
Bromochloromethane	11/26/96	1	1.0	BQL
Bromodichloromethane	11/26/96	1	1.0	BQL
Bromoform	11/26/96	1	2.0	BQL
Bromomethane	11/26/96	1	2.0	BQL
n-Butylbenzene	11/26/96	1	1.0	BQL
sec-Butylbenzene	11/26/96	1	1.0	BQL
tert-Butylbenzene	11/26/96	1	1.0	BQL
Carbon tetrachloride	11/26/96	1	1.0	BQL
Chlorobenzene	11/26/96	1	1.0	BQL
Chloroethane	11/26/96	1	1.0	BQL
Chloroform	11/26/96	1	1.0	BQL
Chloromethane	11/26/96	1	1.0	BQL
2-Chlorotoluene	11/26/96	1	1.0	BQL
4-Chlorotoluene	11/26/96	1	2.0	BQL
Dibromochloromethane	11/26/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	11/26/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	11/26/96	1	1.0	BQL
Dibromomethane	11/26/96	1	1.0	BQL
1,2-Dichlorobenzene	11/26/96	1	1.0	BQL
1,3-Dichlorobenzene	11/26/96	1	1.0	BQL
1,4-Dichlorobenzene	11/26/96	1	1.0	BQL
Dichlorodifluoromethane	11/26/96	1	5.0	BQL
1,1-Dichloroethane	11/26/96	1	1.0	BQL
1,2-Dichloroethane	11/26/96	1	1.0	BQL
1,1-Dichloroethene	11/26/96	1	1.0	BQL
cis-1,2-Dichloroethene	11/26/96	1	1.0	BQL
trans-1,2-Dichloroethene	11/26/96	1	1.0	BQL
1,2-Dichloropropane	11/26/96	1	1.0	BQL
2,2-Dichloropropane	11/26/96	1	2.0	BQL
cis-1,3-Dichloropropene	11/26/96	1	1.0	BQL
trans-1,3-Dichloropropene	11/26/96	1	1.0	BQL
Diisopropyl ether (DIPE)	11/26/96	1	1.0	BQL
Ethylbenzene	11/26/96	1	1.0	BQL
Hexachlorobutadiene	11/26/96	1	1.0	BQL
Isopropylbenzene	11/26/96	1	1.0	BQL
p-Isopropyltoluene	11/26/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	11/26/96	1	1.0	BQL
Methylene Chloride	11/26/96	1	5.0	BQL
Naphthalene	11/26/96	1	1.0	BQL
n-Propylbenzene	11/26/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK11126
Lab Project ID: G149-61 %Solids: 100.0

Analyzed By: WML
Date Collected: NA
Date Received: NA
Matrix: Soil

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/KG)	Result (ug/KG)
Styrene	11/26/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	11/26/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	11/26/96	1	1.0	BQL
Tetrachloroethene	11/26/96	1	1.0	BQL
Toluene	11/26/96	1	1.0	BQL
1,2,3-Trichlorobenzene	11/26/96	1	1.0	BQL
1,2,4-Trichlorobenzene	11/26/96	1	1.0	BQL
1,1,1-Trichloroethane	11/26/96	1	1.0	BQL
1,1,2-Trichloroethane	11/26/96	1	1.0	BQL
Trichloroethene	11/26/96	1	1.0	BQL
Trichlorofluromethane	11/26/96	1	1.0	BQL
1,2,3-Trichloropropane	11/26/96	1	2.0	BQL
1,2,4-Trimethylbenzene	11/26/96	1	1.0	BQL
1,3,5-Trimethylbenzene	11/26/96	1	2.0	BQL
Vinyl Chloride	11/26/96	1	1.0	BQL
m/p-Xylene	11/26/96	1	2.0	BQL
o-Xylene	11/26/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	37.1	93
Trifluorotoluene	40	41.3	103

Comments:
All values corrected for dilution and %solids.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK311279
Lab Project ID: G149-61

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	11/27/96	1	1.0	BQL
Bromobenzene	11/27/96	1	2.0	BQL
Bromochloromethane	11/27/96	1	1.0	BQL
Bromodichloromethane	11/27/96	1	1.0	BQL
Bromoform	11/27/96	1	2.0	BQL
Bromomethane	11/27/96	1	2.0	BQL
n-Butylbenzene	11/27/96	1	1.0	BQL
sec-Butylbenzene	11/27/96	1	1.0	BQL
tert-Butylbenzene	11/27/96	1	1.0	BQL
Carbon tetrachloride	11/27/96	1	1.0	BQL
Chlorobenzene	11/27/96	1	1.0	BQL
Chloroethane	11/27/96	1	1.0	BQL
Chloroform	11/27/96	1	1.0	BQL
Chloromethane	11/27/96	1	1.0	BQL
2-Chlorotoluene	11/27/96	1	1.0	BQL
4-Chlorotoluene	11/27/96	1	2.0	BQL
Dibromochloromethane	11/27/96	1	1.0	BQL
1,2-Dibromo-3-chloropropane	11/27/96	1	1.0	BQL
1,2-Dibromoethane (EDB)	11/27/96	1	1.0	BQL
Dibromomethane	11/27/96	1	1.0	BQL
1,2-Dichlorobenzene	11/27/96	1	1.0	BQL
1,3-Dichlorobenzene	11/27/96	1	1.0	BQL
1,4-Dichlorobenzene	11/27/96	1	1.0	BQL
Dichlorodifluoromethane	11/27/96	1	5.0	BQL
1,1-Dichloroethane	11/27/96	1	1.0	BQL
1,2-Dichloroethane	11/27/96	1	1.0	BQL
1,1-Dichloroethene	11/27/96	1	1.0	BQL
cis-1,2-Dichloroethene	11/27/96	1	1.0	BQL
trans-1,2-Dichloroethene	11/27/96	1	1.0	BQL
1,2-Dichloropropane	11/27/96	1	1.0	BQL
2,2-Dichloropropane	11/27/96	1	2.0	BQL
cis-1,3-Dichloropropene	11/27/96	1	1.0	BQL
trans-1,3-Dichloropropene	11/27/96	1	1.0	BQL
Diisopropyl ether (DIPE)	11/27/96	1	1.0	BQL
Ethylbenzene	11/27/96	1	1.0	BQL
Hexachlorobutadiene	11/27/96	1	1.0	BQL
Isopropylbenzene	11/27/96	1	1.0	BQL
p-Isopropyltoluene	11/27/96	1	1.0	BQL
Methyl-tert butyl ether (MTBE)	11/27/96	1	1.0	BQL
Methylene Chloride	11/27/96	1	5.0	BQL
Naphthalene	11/27/96	1	1.0	BQL
n-Propylbenzene	11/27/96	1	1.0	BQL

Flags:
BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 8021

Client Sample ID: NA
Client Project ID: NC0360.212
Lab Sample ID: VBLK311279
Lab Project ID: G149-61

Analyzed By: CKC
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Styrene	11/27/96	1	2.0	BQL
1,1,1,2-Tertrachloroethane	11/27/96	1	1.0	BQL
1,1,2,2-Tertrachloroethane	11/27/96	1	1.0	BQL
Tetrachloroethene	11/27/96	1	1.0	BQL
Toluene	11/27/96	1	1.0	BQL
1,2,3-Trichlorobenzene	11/27/96	1	1.0	BQL
1,2,4-Trichlorobenzene	11/27/96	1	1.0	BQL
1,1,1-Trichloroethane	11/27/96	1	1.0	BQL
1,1,2-Trichloroethane	11/27/96	1	1.0	BQL
Trichloroethene	11/27/96	1	1.0	BQL
Trichlorofluromethane	11/27/96	1	1.0	BQL
1,2,3-Trichloropropane	11/27/96	1	2.0	BQL
1,2,4-Trimethylbenzene	11/27/96	1	1.0	BQL
1,3,5-Trimethylbenzene	11/27/96	1	2.0	BQL
Vinyl Chloride	11/27/96	1	1.0	BQL
m/p-Xylene	11/27/96	1	2.0	BQL
o-Xylene	11/27/96	1	2.0	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105
Trifluorotoluene	40	42	105

Comments:
All values corrected for dilution.

Reviewed By: [illegible]

Flags:
BQL = Below Quantitation Limit

Results for MS/MSD
by GC 8021

Client Sample ID: 70SS-9-4MSD
Client Project ID: NC0360.212
Lab Sample ID: 17304
Lab Project ID: G149-61
Analyzed By: RNP

%Solids: 86.0

Date Analyzed: 11/27/96
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
Benzene	BQL	23.2	84.6	87.6	55.0	145.0	3.5	30
Bromobenzene	BQL	23.2	96.3	112.9	59.6	140.4	15.9	30
Bromochloromethane	BQL	23.2	82.8	89.4	71.6	128.4	7.6	30
Bromodichloromethane	BQL	23.2	87.2	98.1	59.4	140.6	11.8	30
Bromoform	BQL	23.2	62.3	66.8	61.5	138.5	6.9	30
Bromomethane	BQL	23.2	62.7	67.9	42.7	157.3	7.8	30
n-Butylbenzene	BQL	23.2	38.2 *	38.0 *	43.3	156.7	0.5	30
sec-Butylbenzene	BQL	23.2	28.1	28.0	25.0	175.0	0.3	30
tert-Butylbenzene	BQL	23.2	55.2	54.7	46.0	154.0	1.0	30
Carbon tetrachloride	BQL	23.2	33.0	39.2	24.1	175.9	17.3	30
Chlorobenzene	BQL	23.2	64.8	72.4	34.6	165.4	11.0	30
Chloroethane	BQL	23.2	60.4	64.3	39.1	160.9	6.3	30
Chloroform	BQL	23.2	76.1	80.3	50.4	149.6	5.4	30
Chloromethane	BQL	23.2	71.0	74.8	>0	199.4	5.2	30
2-Chlorotoluene	BQL	23.2	53.5	59.8	16.1	183.9	11.1	30
4-Chlorotoluene	BQL	23.2	55.9	58.3	20.3	179.7	4.3	30
Dibromochloromethane	BQL	23.2	74.4	88.0	61.7	138.3	16.7	30
1,2-Dibromo-3-chloropropane	BQL	23.2	32.8 *	32.3 *	55.7	144.3	1.6	30
1,2-Dibromoethane (EDB)	BQL	23.2	77.5	89.2	65.4	134.6	14.1	30
Dibromomethane	BQL	23.2	84.2	89.1	70.5	129.5	5.7	30
1,2-Dichlorobenzene	BQL	23.2	59.9	66.1	21.6	178.4	9.9	30
1,3-Dichlorobenzene	BQL	23.2	59.7	63.7	20.9	179.1	6.5	30
1,4-Dichlorobenzene	BQL	23.2	60.0	61.1	27.9	172.1	1.8	30
Dichlorodifluoromethane	BQL	23.2	65.7	74.6	43.7	156.3	12.7	30
1,1-Dichloroethane	BQL	23.2	83.6	85.7	55.6	144.4	2.5	30
1,2-Dichloroethane	BQL	23.2	89.6	95.0	74.3	125.7	5.8	30
1,1-Dichloroethene	BQL	23.2	70.3	73.7	42.4	157.6	4.7	30
cis-1,2-Dichloroethene	BQL	23.2	80.2	87.3	63.7	136.3	8.4	30
trans-1,2-Dichloroethene	BQL	23.2	87.0	91.9	43.8	156.2	5.5	30
1,2-Dichloropropane	BQL	23.2	93.1	102.7	59.8	140.2	9.8	30
2,2-Dichloropropane	BQL	23.2	33.0	39.2	24.1	175.9	17.3	30
cis-1,3-Dichloropropene	BQL	23.2	80.8	90.2	41.5	158.5	10.9	30
trans-1,3-Dichloropropene	BQL	23.2	80.3	84.2	57.7	142.3	4.8	30
Diisopropyl ether	BQL	23.2	83.0	86.4	69.1	130.9	4.1	30
Ethylbenzene	BQL	23.2	71.5	72.8	42.9	157.1	1.8	30
Hexachlorobutadiene	BQL	23.2	23.1	25.6	8.2	191.8	10.1	30
Isopropylbenzene	BQL	23.2	41.3	42.3	39.3	160.7	2.6	30
p-Isopropyltoluene	BQL	23.2	56.1	55.7	42.0	158.0	0.7	30
Methyl-tert butyl ether	BQL	23.2	89.0	91.5	21.8	178.2	2.7	30
Methylene Chloride	BQL	23.2	152.8	164.2	>0	335.3	7.2	30
Naphthalene	BQL	23.2	6.3 *	6.6 *	40.2	159.8	5.5	30
n-Propylbenzene	BQL	23.2	63.5	62.0	38.9	161.1	2.4	30
Styrene	BQL	23.2	72.9	74.5	>0	213.9	2.3	30
1,1,1,2-Tertrachloroethane	BQL	23.2	74.6	86.0	40.3	159.7	14.2	30
1,1,2,2-Tertrachloroethane	BQL	23.2	30.5	33.0	>0	263.8	8.0	30
Tetrachloroethene	BQL	23.2	70.5	80.7	44.0	156.0	13.6	30
Toluene	BQL	23.2	86.5	90.4	50.4	149.6	4.4	30
1,2,3-Trichlorobenzene	BQL	23.2	20.9 *	22.0 *	26.2	173.8	5.0	30
1,2,4-Trichlorobenzene	BQL	23.2	15.0 *	12.4 *	19.5	180.5	18.9	30
1,1,1-Trichloroethane	BQL	23.2	83.2	88.8	35.3	164.7	6.5	30

Results for MS/MSD
by GC 8021

Client Sample ID: 70SS-9-4MSD
Client Project ID: NC0360.212
Lab Sample ID: 17304
Lab Project ID: G149-61
Analyzed By: RNP

%Solids: 86.0

Date Analyzed: 11/27/96
Date Collected: 11/13/96
Date Received: 11/14/96
Matrix: Soil

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
1,1,2-Trichloroethane	BQL	23.2	84.1	94.9	67.7	132.3	12.1	30
Trichloroethene	BQL	23.2	91.9	112.7	40.8	159.2	20.3	30
Trichlorofluromethane	BQL	23.2	60.7	65.1	27.0	173.0	7.0	30
1,2,3-Trichloropropane	BQL	23.2	96.3	112.9	59.6	140.4	15.9	30
1,2,4-Trimethylbenzene	BQL	23.2	15.8 *	16.1 *	35.4	164.6	2.1	30
1,3,5-Trimethylbenzene	BQL	23.2	58.5	59.2	27.5	172.5	1.1	30
Vinyl Chloride	BQL	23.2	73.9	81.0	52.8	147.2	9.2	30
m/p-Xylene	BQL	46.5	36.8 *	37.7 *	43.0	157.0	2.4	30
o-Xylene	BQL	23.2	72.9	74.5	63.1	136.9	2.3	30

Comments:

Concentrations are corrected for dry weight.

Flags:

* = Out of limits.
NA = Not applicable
BQL = Below quantitation limit.

Reviewed By: MN

Results for Labortory Control Spike (LCS)

by GC 8021

Client Sample ID: LCS112296
Client Project ID: NC0360.212
Lab Sample ID: None assigned
Lab Project ID: G149-61

%Solids: 100.0

Analyst: WML
Date Collected: Not applicable
Date Received: Not applicable
Matrix: Soil

	Spiked	LCS	Limits Lower	Limits Upper
Benzene	20	100.4	41.6	158.4
Bromobenzene	20	100.0	13.9	186.1
Bromochloromethane	20	100.0	>0	201.1
Bromodichloromethane	20	107.9	8.1	191.9
Bromoform	20	100.6	18.5	181.5
Bromomethane	20	76.9	17.5	182.5
n-Butylbenzene	20	48.5	33.3	166.7
sec-Butylbenzene	20	100.6	37.3	162.7
tert-Butylbenzene	20	98.7	35.9	164.1
Carbon tetrachloride	20	74.0	15.2	184.8
Chlorobenzene	20	100.4	13.6	186.4
Chloroethane	20	89.3	13.6	186.4
Chloroform	20	109.2	7.4	192.6
Chloromethane	20	89.3	10.9	189.1
2-Chlorotoluene	20	109.8	10.9	189.1
4-Chlorotoluene	20	102.8	6.8	193.2
Dibromochloromethane	20	101.0	8.1	191.9
1,2-Dibromo-3-chloropropane	20	108.3	26.3	173.7
1,2-Dibromoethane (EDB)	20	113.0	>0	206.3
Dibromomethane	20	113.0	>0	202.5
1,2-Dichlorobenzene	20	109.9	5.3	194.7
1,3-Dichlorobenzene	20	109.8	9.9	190.1
1,4-Dichlorobenzene	20	102.8	0.7	199.3
Dichlorodifluoromethane	20	100.9	6.8	193.2
1,1-Dichloroethane	20	103.7	10.0	190.0
1,2-Dichloroethane	20	105.6	>0	203.0
1,1-Dichloroethene	20	103.4	16.4	183.6
cis-1,2-Dichloroethene	20	108.3	19.4	180.6
trans-1,2-Dichloroethene	20	103.6	11.7	188.3
1,2-Dichloropropane	20	109.9	9.7	190.3
2,2-Dichloropropane	20	108.3	15.2	184.8
cis-1,3-Dichloropropene	20	107.3	5.1	194.9
trans-1,3-Dichloropropene	20	104.0	8.5	191.5
Diisopropyl ether	20	101.5	30.1	169.9
Ethylbenzene	20	100.0	41.5	158.5
Hexachlorobutadiene	20	102.3	11.3	188.7
Isopropylbenzene	20	100.6	40.4	159.6
p-Isopropyltoluene	20	49.4	41.4	158.6
Methyl-tert butyl ether	20	95.6	34.6	165.4
Methylene Chloride	20	104.9	>0	261.9
Naphthalene	20	101.6	37.6	162.4
n-Propylbenzene	20	101.2	41.5	158.5
Styrene	20	99.9	10.2	189.8
1,1,1,2-Tertrachloroethane	20	55.5	6.5	193.5
1,1,2,2-Tertrachloroethane	20	95.9	>0	209.1
Tetrachloroethene	20	114.2	77.6	122.4
Toluene	20	100.0	40.3	159.7
1,2,3-Trichlorobenzene	20	108.3	3.5	196.5
1,2,4-Trichlorobenzene	20	110.2	16.8	183.2
1,1,1-Trichloroethane	20	108.0	26.5	173.5

Results for Labortory Control Spike (LCS)

by GC 8021

Client Sample ID: LCS112296
Client Project ID: NC0360.212
Lab Sample ID: None assigned
Lab Project ID: G149-61

%Solids: 100.0

Analyst: WML
Date Collected: Not applicable
Date Received: Not applicable
Matrix: Soil

	Spiked	LCS	Limits Lower	Limits Upper
1,1,2-Trichloroethane	20	114.7	7.9	192.1
Trichloroethene	20	108.7	21.9	178.1
Trichlorofluromethane	20	100.5	6.8	193.2
1,2,3-Trichloropropane	20	107.0	62.7	137.3
1,2,4-Trimethylbenzene	20	101.3	37.7	162.3
1,3,5-Trimethylbenzene	20	99.6	42.1	157.9
Vinyl Chloride	20	105.9	14.5	185.5
m/p-Xylene	40	99.8	>0	239.5
o-Xylene	20	99.9	35.6	164.4

Comments:

Concentration values are on column amount.

Flags:

* = Out of limits.
NA = Not applicable

Reviewed By: WM

GERAGHTY & MILLER, INC.
Environmental Services
a heidemij company

Laboratory Task Order No. 20173

CHAIN-OF-CUSTODY RECORD

149-61

Page 1 of 1

Project Number NC036D.212

Project Location NCDOT Site #70 Lumberton NC

Laboratory Paradigm

Sampler(s)/Affiliation Sean K. Patrick GEM

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	8021 in 4oz. jars pres. @ 4°C	8021 in 4x40ml VOA vials pres. w/HCl @ 4°C								TOTAL
70SS-6-4	S	11/13/96 1235		1									1
70SS-7-4	S	11/13/96 1205		1									1
70SS-8-4	S	11/13/96 1140		1									1
* 70SS-9-4	S	11/13/96 1455		1									1
70REP-01-SS	S	11/13/96 —		1									1
~~70TB-01-SS~~	~~L~~	~~11/13/96 —~~			~~4~~								~~4~~ SKP 11/13/96
70TB-01-SS	L	11/13/96 1245			4								4
70TB-01-(11/13/96)	L	11/13/96			4								4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 13

Relinquished by: Sean K Patrick	Organization: Geraghty & Miller	Date 11/13/96	Time 1805	Seal Intact?
Received by: H Hallen	Organization: PARADIGM	Date 11/14/96	Time 0935	(Yes) No N/A
Relinquished by:	Organization:	Date / /	Time	Seal Intact?
Received by:	Organization:	Date / /	Time	Yes No N/A

Special Instructions/Remarks: * 70SS-9-4 for Matrix Spike & Matrix Spike Duplicate analyses, additionally
Temp = 1°C

Delivery Method: ☐ In Person ☒ Common Carrier Federal Express (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

LABORATORY TASK ORDER

Task Order No.: 20173

Geraghty & Miller Office: _____ Phone: _____ Date: _____
Address: _____ Project Number: _____
_____ Laboratory Reporting Level: ☐ I ☐ II ☐ III ☐ IV
Project Name: _____ Location: _____
Laboratory: _____ Phone: _____ Contact: _____
Lab Provides Sample Containers? ☐ Yes ☐ No Date Required: _____ Ship To: _____
Estimated Date Of Sample Receipt By Laboratory: _____ Report Due: _____
Reports Delivered To: _____ Number Of Reports: _____
Work Description: _____
Send Invoice To: _____

PHYSICAL PROPERTIES	# Water	Method	Det. Limit	# Soil	Method	Det. Limit	NON-METALLICS	# Water	Method	Det. Limit	# Soil	Method	Det. Limit
pH							Acidity						
Spec. Cond.							Alkalinity (Total)						
Hardness (total)							Carbonate						
TDS							Bicarbonate						
TSS							Bromide						
Temperature							Chloride						
Turbidity							Cyanide						
Ignitability							Fluoride						
Corrosivity							Ammonia						
Reactivity							Nitrate						
E.P. Tox. Extraction							TKN						
TCLP Extraction							Nitrite						
E.P. Tox. Complete							Phosphorus						
TCLP Complete							Silica						
METALS*							Sulfate						
Aluminum							Sulfide						
Antimony							Surfactants (MBAS)						
Arsenic							ORGANICS						
Barium							BOD						
Beryllium							COD						
Cadmium							Oil & Grease						
Calcium							TOC						
Chromium							TOX						
Hex Chromium							TRPH						
Copper							Purg. Halocarbons#						
Iron							Non-Halogenated VOCs#						
Lead							Purgeable Arom.#						
Magnesium							Phenols#						
Manganese							Pesticides/PCBs#						
Mercury							PNAs#						
Nickel							Org. Phos. Pest.#						
Potassium							Dioxins						
Selenium							Chlor. Herb.#						
Silver							Volatile Organics#						
Sodium							Semi Volatile Organics#						
Thallium							APPENDIX IX#						
Tin							RADIONUCLIDES						
Vanadium							Gross Alpha						
Zinc							Gross Beta						
Priority Pollutant Metals*							Radium 226						
TCL (HSL) Metals*							Radium 228						

* Metals are Total Metals Unless Specified as Dissolved Under Special Instructions. # Attach Table of Elements or Compounds to be Analyzed. # Includes All Organic and Inorganic Compounds.

Special Instructions Or Other: _____

G&M Project Manager Signature: _____ Date: _____ G&M QA Officer Signature: _____ Date: _____
Laboratory Acceptance: _____ Date: _____

G&M Form 32

☐ No Changes

LABORATORY TASK ORDER AMENDMENTS

Required Change: _____

G&M Representative Signature: _____ Date: _____

RETURN YELLOW COPY TO PROJECT MANAGER OR QUALITY ASSURANCE OFFICER — ATTACH PINK COPY TO CHAIN OF CUSTODY FORM

7954591536

11/13/90

Sean K Patrick 919 571-1662

Geography Dept 350

2140 Place Place

Raleigh NC NC 27612

For Saturday Delivery check here

1811-4139-1

1 43

232

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GERAGHTY & MILLER, INC.
Environmental Services
A Groundwater company

Laboratory Task Order No. 20173

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number NC0560.212

Project Location Superfund Site #70 Lumberton NC

Laboratory [illegible]

Sampler(s)/Affiliation Sean K. Patrick / G&M

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	30z jar 402 preserved 4°C	30z jar 4x402 VOA vials preserved HCl 4°C								TOTAL
~~70SS-6-4~~ MT 1/30/96	S	11/13/96 1205		1		70SS-10-4							1
70SS-7-4	S	11/13/96 1205		1									1
70SS-8-4	S	11/13/96 1140		1									1
* 70SS-9-4	S	11/13/96 1450		1									1
70REP-01-SS	S	11/13/96 —		1									1
~~70TB-01-SS~~	~~L~~	~~11/13/96~~			~~4~~								~~4~~
70ES-01-SS	L	11/13/96 1245			4								4
70TB-01-[illegible]	L	11/13/96			4								4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 13

Relinquished by: Sean K. Patrick	Organization: G&M Geraghty & Miller	Date 11/13/96 Time 1805	Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	

Special Instructions/Remarks: * 70SS-9-4 for Matrix Spike & Matrix Spike Duplicate analyses

Delivery Method: ☐ In Person ☒ Common Carrier Federal Express (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

G&M Form 09.9.91

Southprint 95-0533

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

Mr. Fred Rash
Geraghty & Miller
2840 Plaza Place
Raleigh,NC 27612

Date 01-22-97

Report Number: G149-80

Client Project Number: NCDOT360.212.006
Project Location: DOT Site #70; Lumberton, NC
LTO Number: 20654

Dear Mr. Rash :

Enclosed are the results of the analytical services performed under the referenced project. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call for assistance. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical service projects. We look forward to working with you again on any additional needs which you may have.

Sincerely,

Paradigm Analytical Laboratories

Laboratory Director
Mark Randall

RECEIVED
JAN 23 1997
G & M RALEIGH

CASE NARRATIVE FOR PROJECTS 149-80

LTO # 20654

SURROGATES:

149-80 - 601, 602

All within acceptance criteria

BLANKS:

149-80 - 601, 602

All blanks - all compounds BQL

MATRIX SPIKES/MATRIX SPIKE DUPLICATES:

149-80

601 MS/MSD

1 compound failed acceptance criteria for recovery.
0 compound failed RPD acceptance criteria (30%).

601 LCS

0 compounds failed acceptance criteria for recovery.
0 compounds failed RPD acceptance criteria.

602 LCS

All compounds within acceptance criteria.

HOLDING TIME:

All samples analyzed within holding time

DILUTIONS:

See attached

COMMENTS:

All reported GC results were qualitatively confirmed by GC/MS.

PAL Pro#	Client Sample	COC/Proj ID	Lab ID	Report
G149-80	70MW-7GW	NC0360.212.006	19334	601
G149-80	70MW-7GW	NC0360.212.006	19334	602
G149-80	70MW-8GW	NC0360.212.006	19335	601
G149-80	70MW-8GW	NC0360.212.006	19335	602
G149-80	70MW-9GW	NC0360.212.006	19336	601
G149-80	70MW-9GW	NC0360.212.006	19336	602
G149-80	70MW-10GW	NC0360.212.006	19337	601
G149-80	70MW-10GW	NC0360.212.006	19337	602
G149-80	70MW-11GW	NC0360.212.006	19338	601
G149-80	70MW-11GW	NC0360.212.006	19338	602
G149-80	70MW-10MS	NC0360.212.006	19339	601
G149-80	70MW-10MS	NC0360.212.006	19339	602
G149-80	70MW-10MSD	NC0360.212.006	19340	601
G149-80	70MW-10MSD	NC0360.212.006	19340	602
G149-80	70REP-01-GW	NC0360.212.006	19341	601
G149-80	70REP-01-GW	NC0360.212.006	19341	602
G149-80	70EB-01-GW	NC0360.212.006	19342	601
G149-80	70EB-01-GW	NC0360.212.006	19342	602
G149-80	70TB-01-(1/7/9	NC0360.212.006	19343	601
G149-80	70TB-01-(1/7/9	NC0360.212.006	19343	602

PARADIGM ANALYTICAL LABORATORIES, INC.

Date Printed 1/16/97

SAMPLES AND ASSOCIATED BLANK

SAMPLE ID	ASSOCIATED BLANK	
	601	602
19334	VBLK3011497	VBLK3011497
19335	VBLK3011097	VBLK3011097
19336	VBLK3011397	VBLK3011397
19337	VBLK3011397	VBLK3011397
19338	VBLK3011397	VBLK3011397
19341	VBLK3011497	VBLK3011497
19342	VBLK3011497	VBLK3011497
19343	VBLK3011097	VBLK3011097

PARADIGM ANALYTICAL LABORATORIES, INC.

DILUTIONS 149-80

SAMPLE ID	601	602

NO DILLUTIONS NECESSARY

SURROGATE RECOVERY LIMITS

	6230D	8021	601	8260B	8270B	602
1,4-Dichlorobutane	85-120%	83-123%	87-113%			
Trifluorotoluene	85-122%	84-122%				82-112%
Bromofluorobenzene				68-132%		
1,2-Dichloroethane-d4				80-118%		
Toluene-d8				80-116%		
2-Fluorophenol					43-116%	
Phenol-d5					35-144%	
2,4,6-Tribromophenol					33-141%	
Nitrobenzene-d14					21-100%	
2-Fluorobiphenyl					10-94%	
p-Terphenyl-d14					10-123%	

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-7GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19334
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/08/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/15/97	1	1	BQL
Bromoform	1/15/97	1	2	BQL
Bromomethane	1/15/97	1	2	BQL
Carbon tetrachloride	1/15/97	1	1	BQL
Chlorobenzene	1/15/97	1	1	BQL
Chloroethane	1/15/97	1	1	BQL
Chloroform	1/15/97	1	1	BQL
Chloromethane	1/15/97	1	1	BQL
Dibromochloromethane	1/15/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/15/97	1	1	BQL
1,2-Dichlorobenzene	1/15/97	1	1	BQL
1,3-Dichlorobenzene	1/15/97	1	1	BQL
1,4-Dichlorobenzene	1/15/97	1	1	BQL
1,1-Dichloroethane	1/15/97	1	1	BQL
1,2-Dichloroethane	1/15/97	1	1	BQL
1,1-Dichloroethene	1/15/97	1	1	BQL
cis-1,2-Dichloroethene	1/15/97	1	1	BQL
trans-1,2-Dichloroethene	1/15/97	1	1	BQL
1,2-Dichloropropane	1/15/97	1	1	BQL
cis-1,3-Dichloropropene	1/15/97	1	1	BQL
trans-1,3-Dichloropropene	1/15/97	1	1	BQL
Methylene Chloride	1/15/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/15/97	1	1	BQL
Tetrachloroethene	1/15/97	1	1	BQL
1,1,1-Trichloroethane	1/15/97	1	1	BQL
1,1,2-Trichloroethane	1/15/97	1	1	BQL
Trichloroethene	1/15/97	1	1	BQL
Trichlorofluoromethane	1/15/97	1	1	BQL
Vinyl Chloride	1/15/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-8GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19335
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/07/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/11/97	1	1	BQL
Bromoform	1/11/97	1	2	BQL
Bromomethane	1/11/97	1	2	BQL
Carbon tetrachloride	1/11/97	1	1	BQL
Chlorobenzene	1/11/97	1	1	BQL
Chloroethane	1/11/97	1	1	BQL
Chloroform	1/11/97	1	1	BQL
Chloromethane	1/11/97	1	1	BQL
Dibromochloromethane	1/11/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/11/97	1	1	BQL
1,2-Dichlorobenzene	1/11/97	1	1	BQL
1,3-Dichlorobenzene	1/11/97	1	1	BQL
1,4-Dichlorobenzene	1/11/97	1	1	BQL
1,1-Dichloroethane	1/11/97	1	1	BQL
1,2-Dichloroethane	1/11/97	1	1	BQL
1,1-Dichloroethene	1/11/97	1	1	BQL
cis-1,2-Dichloroethene	1/11/97	1	1	BQL
trans-1,2-Dichloroethene	1/11/97	1	1	BQL
1,2-Dichloropropane	1/11/97	1	1	BQL
cis-1,3-Dichloropropene	1/11/97	1	1	BQL
trans-1,3-Dichloropropene	1/11/97	1	1	BQL
Methylene Chloride	1/11/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/11/97	1	1	BQL
Tetrachloroethene	1/11/97	1	1	BQL
1,1,1-Trichloroethane	1/11/97	1	1	BQL
1,1,2-Trichloroethane	1/11/97	1	1	BQL
Trichloroethene	1/11/97	1	1	BQL
Trichlorofluoromethane	1/11/97	1	1	BQL
Vinyl Chloride	1/11/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-9GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19336
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/07/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/14/97	1	1	BQL
Bromoform	1/14/97	1	2	BQL
Bromomethane	1/14/97	1	2	BQL
Carbon tetrachloride	1/14/97	1	1	BQL
Chlorobenzene	1/14/97	1	1	BQL
Chloroethane	1/14/97	1	1	BQL
Chloroform	1/14/97	1	1	BQL
Chloromethane	1/14/97	1	1	BQL
Dibromochloromethane	1/14/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/14/97	1	1	BQL
1,2-Dichlorobenzene	1/14/97	1	1	BQL
1,3-Dichlorobenzene	1/14/97	1	1	BQL
1,4-Dichlorobenzene	1/14/97	1	1	BQL
1,1-Dichloroethane	1/14/97	1	1	1
1,2-Dichloroethane	1/14/97	1	1	BQL
1,1-Dichloroethene	1/14/97	1	1	BQL
cis-1,2-Dichloroethene	1/14/97	1	1	4
trans-1,2-Dichloroethene	1/14/97	1	1	BQL
1,2-Dichloropropane	1/14/97	1	1	BQL
cis-1,3-Dichloropropene	1/14/97	1	1	BQL
trans-1,3-Dichloropropene	1/14/97	1	1	BQL
Methylene Chloride	1/14/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/14/97	1	1	BQL
Tetrachloroethene	1/14/97	1	1	BQL
1,1,1-Trichloroethane	1/14/97	1	1	1
1,1,2-Trichloroethane	1/14/97	1	1	BQL
Trichloroethene	1/14/97	1	1	16
Trichlorofluoromethane	1/14/97	1	1	BQL
Vinyl Chloride	1/14/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	36	90

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-10GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19337
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/08/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/14/97	1	1	BQL
Bromoform	1/14/97	1	2	BQL
Bromomethane	1/14/97	1	2	BQL
Carbon tetrachloride	1/14/97	1	1	BQL
Chlorobenzene	1/14/97	1	1	BQL
Chloroethane	1/14/97	1	1	BQL
Chloroform	1/14/97	1	1	BQL
Chloromethane	1/14/97	1	1	BQL
Dibromochloromethane	1/14/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/14/97	1	1	BQL
1,2-Dichlorobenzene	1/14/97	1	1	BQL
1,3-Dichlorobenzene	1/14/97	1	1	BQL
1,4-Dichlorobenzene	1/14/97	1	1	BQL
1,1-Dichloroethane	1/14/97	1	1	BQL
1,2-Dichloroethane	1/14/97	1	1	BQL
1,1-Dichloroethene	1/14/97	1	1	BQL
cis-1,2-Dichloroethene	1/14/97	1	1	BQL
trans-1,2-Dichloroethene	1/14/97	1	1	BQL
1,2-Dichloropropane	1/14/97	1	1	BQL
cis-1,3-Dichloropropene	1/14/97	1	1	BQL
trans-1,3-Dichloropropene	1/14/97	1	1	BQL
Methylene Chloride	1/14/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/14/97	1	1	BQL
Tetrachloroethene	1/14/97	1	1	BQL
1,1,1-Trichloroethane	1/14/97	1	1	BQL
1,1,2-Trichloroethane	1/14/97	1	1	BQL
Trichloroethene	1/14/97	1	1	BQL
Trichlorofluoromethane	1/14/97	1	1	BQL
Vinyl Chloride	1/14/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	39	98

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70MW-11GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19338
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/08/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/14/97	1	1	BQL
Bromoform	1/14/97	1	2	BQL
Bromomethane	1/14/97	1	2	BQL
Carbon tetrachloride	1/14/97	1	1	BQL
Chlorobenzene	1/14/97	1	1	BQL
Chloroethane	1/14/97	1	1	BQL
Chloroform	1/14/97	1	1	BQL
Chloromethane	1/14/97	1	1	BQL
Dibromochloromethane	1/14/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/14/97	1	1	BQL
1,2-Dichlorobenzene	1/14/97	1	1	BQL
1,3-Dichlorobenzene	1/14/97	1	1	BQL
1,4-Dichlorobenzene	1/14/97	1	1	BQL
1,1-Dichloroethane	1/14/97	1	1	BQL
1,2-Dichloroethane	1/14/97	1	1	BQL
1,1-Dichloroethene	1/14/97	1	1	BQL
cis-1,2-Dichloroethene	1/14/97	1	1	BQL
trans-1,2-Dichloroethene	1/14/97	1	1	BQL
1,2-Dichloropropane	1/14/97	1	1	BQL
cis-1,3-Dichloropropene	1/14/97	1	1	BQL
trans-1,3-Dichloropropene	1/14/97	1	1	BQL
Methylene Chloride	1/14/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/14/97	1	1	BQL
Tetrachloroethene	1/14/97	1	1	BQL
1,1,1-Trichloroethane	1/14/97	1	1	BQL
1,1,2-Trichloroethane	1/14/97	1	1	BQL
Trichloroethene	1/14/97	1	1	BQL
Trichlorofluoromethane	1/14/97	1	1	BQL
Vinyl Chloride	1/14/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	36	90

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: hm

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70REP-01-GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19341
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/07/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/15/97	1	1	BQL
Bromoform	1/15/97	1	2	BQL
Bromomethane	1/15/97	1	2	BQL
Carbon tetrachloride	1/15/97	1	1	BQL
Chlorobenzene	1/15/97	1	1	BQL
Chloroethane	1/15/97	1	1	BQL
Chloroform	1/15/97	1	1	BQL
Chloromethane	1/15/97	1	1	BQL
Dibromochloromethane	1/15/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/15/97	1	1	BQL
1,2-Dichlorobenzene	1/15/97	1	1	BQL
1,3-Dichlorobenzene	1/15/97	1	1	BQL
1,4-Dichlorobenzene	1/15/97	1	1	BQL
1,1-Dichloroethane	1/15/97	1	1	BQL
1,2-Dichloroethane	1/15/97	1	1	BQL
1,1-Dichloroethene	1/15/97	1	1	BQL
cis-1,2-Dichloroethene	1/15/97	1	1	BQL
trans-1,2-Dichloroethene	1/15/97	1	1	BQL
1,2-Dichloropropane	1/15/97	1	1	BQL
cis-1,3-Dichloropropene	1/15/97	1	1	BQL
trans-1,3-Dichloropropene	1/15/97	1	1	BQL
Methylene Chloride	1/15/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/15/97	1	1	BQL
Tetrachloroethene	1/15/97	1	1	BQL
1,1,1-Trichloroethane	1/15/97	1	1	BQL
1,1,2-Trichloroethane	1/15/97	1	1	BQL
Trichloroethene	1/15/97	1	1	BQL
Trichlorofluoromethane	1/15/97	1	1	BQL
Vinyl Chloride	1/15/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	42	105

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: ms

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70EB-01-GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19342
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/08/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/15/97	1	1	BQL
Bromoform	1/15/97	1	2	BQL
Bromomethane	1/15/97	1	2	BQL
Carbon tetrachloride	1/15/97	1	1	BQL
Chlorobenzene	1/15/97	1	1	BQL
Chloroethane	1/15/97	1	1	BQL
Chloroform	1/15/97	1	1	BQL
Chloromethane	1/15/97	1	1	BQL
Dibromochloromethane	1/15/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/15/97	1	1	BQL
1,2-Dichlorobenzene	1/15/97	1	1	BQL
1,3-Dichlorobenzene	1/15/97	1	1	BQL
1,4-Dichlorobenzene	1/15/97	1	1	BQL
1,1-Dichloroethane	1/15/97	1	1	BQL
1,2-Dichloroethane	1/15/97	1	1	BQL
1,1-Dichloroethene	1/15/97	1	1	BQL
cis-1,2-Dichloroethene	1/15/97	1	1	BQL
trans-1,2-Dichloroethene	1/15/97	1	1	BQL
1,2-Dichloropropane	1/15/97	1	1	BQL
cis-1,3-Dichloropropene	1/15/97	1	1	BQL
trans-1,3-Dichloropropene	1/15/97	1	1	BQL
Methylene Chloride	1/15/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/15/97	1	1	BQL
Tetrachloroethene	1/15/97	1	1	BQL
1,1,1-Trichloroethane	1/15/97	1	1	BQL
1,1,2-Trichloroethane	1/15/97	1	1	BQL
Trichloroethene	1/15/97	1	1	BQL
Trichlorofluoromethane	1/15/97	1	1	BQL
Vinyl Chloride	1/15/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	38	95

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: 70TB-01-(1/7/97)
Client Project ID: NC0360.212.006
Lab Sample ID: 19343
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/07/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/11/97	1	1	BQL
Bromoform	1/11/97	1	2	BQL
Bromomethane	1/11/97	1	2	BQL
Carbon tetrachloride	1/11/97	1	1	BQL
Chlorobenzene	1/11/97	1	1	BQL
Chloroethane	1/11/97	1	1	BQL
Chloroform	1/11/97	1	1	BQL
Chloromethane	1/11/97	1	1	BQL
Dibromochloromethane	1/11/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/11/97	1	1	BQL
1,2-Dichlorobenzene	1/11/97	1	1	BQL
1,3-Dichlorobenzene	1/11/97	1	1	BQL
1,4-Dichlorobenzene	1/11/97	1	1	BQL
1,1-Dichloroethane	1/11/97	1	1	BQL
1,2-Dichloroethane	1/11/97	1	1	BQL
1,1-Dichloroethene	1/11/97	1	1	BQL
cis-1,2-Dichloroethene	1/11/97	1	1	BQL
trans-1,2-Dichloroethene	1/11/97	1	1	BQL
1,2-Dichloropropane	1/11/97	1	1	BQL
cis-1,3-Dichloropropene	1/11/97	1	1	BQL
trans-1,3-Dichloropropene	1/11/97	1	1	BQL
Methylene Chloride	1/11/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/11/97	1	1	BQL
Tetrachloroethene	1/11/97	1	1	BQL
1,1,1-Trichloroethane	1/11/97	1	1	BQL
1,1,2-Trichloroethane	1/11/97	1	1	BQL
Trichloroethene	1/11/97	1	1	BQL
Trichlorofluoromethane	1/11/97	1	1	BQL
Vinyl Chloride	1/11/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	38	95

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: VBLK3011097
Client Project ID: NC0360.212.006
Lab Sample ID:
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/10/97	1	1	BQL
Bromoform	1/10/97	1	2	BQL
Bromomethane	1/10/97	1	2	BQL
Carbon tetrachloride	1/10/97	1	1	BQL
Chlorobenzene	1/10/97	1	1	BQL
Chloroethane	1/10/97	1	1	BQL
Chloroform	1/10/97	1	1	BQL
Chloromethane	1/10/97	1	1	BQL
Dibromochloromethane	1/10/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/10/97	1	1	BQL
1,2-Dichlorobenzene	1/10/97	1	1	BQL
1,3-Dichlorobenzene	1/10/97	1	1	BQL
1,4-Dichlorobenzene	1/10/97	1	1	BQL
1,1-Dichloroethane	1/10/97	1	1	BQL
1,2-Dichloroethane	1/10/97	1	1	BQL
1,1-Dichloroethene	1/10/97	1	1	BQL
cis-1,2-Dichloroethene	1/10/97	1	1	BQL
trans-1,2-Dichloroethene	1/10/97	1	1	BQL
1,2-Dichloropropane	1/10/97	1	1	BQL
cis-1,3-Dichloropropene	1/10/97	1	1	BQL
trans-1,3-Dichloropropene	1/10/97	1	1	BQL
Methylene Chloride	1/10/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/10/97	1	1	BQL
Tetrachloroethene	1/10/97	1	1	BQL
1,1,1-Trichloroethane	1/10/97	1	1	BQL
1,1,2-Trichloroethane	1/10/97	1	1	BQL
Trichloroethene	1/10/97	1	1	BQL
Trichlorofluoromethane	1/10/97	1	1	BQL
Vinyl Chloride	1/10/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: VBLK3011497
Client Project ID: NC0360.212.006
Lab Sample ID:
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/14/97	1	1	BQL
Bromoform	1/14/97	1	2	BQL
Bromomethane	1/14/97	1	2	BQL
Carbon tetrachloride	1/14/97	1	1	BQL
Chlorobenzene	1/14/97	1	1	BQL
Chloroethane	1/14/97	1	1	BQL
Chloroform	1/14/97	1	1	BQL
Chloromethane	1/14/97	1	1	BQL
Dibromochloromethane	1/14/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/14/97	1	1	BQL
1,2-Dichlorobenzene	1/14/97	1	1	BQL
1,3-Dichlorobenzene	1/14/97	1	1	BQL
1,4-Dichlorobenzene	1/14/97	1	1	BQL
1,1-Dichloroethane	1/14/97	1	1	BQL
1,2-Dichloroethane	1/14/97	1	1	BQL
1,1-Dichloroethene	1/14/97	1	1	BQL
cis-1,2-Dichloroethene	1/14/97	1	1	BQL
trans-1,2-Dichloroethene	1/14/97	1	1	BQL
1,2-Dichloropropane	1/14/97	1	1	BQL
cis-1,3-Dichloropropene	1/14/97	1	1	BQL
trans-1,3-Dichloropropene	1/14/97	1	1	BQL
Methylene Chloride	1/14/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/14/97	1	1	BQL
Tetrachloroethene	1/14/97	1	1	BQL
1,1,1-Trichloroethane	1/14/97	1	1	BQL
1,1,2-Trichloroethane	1/14/97	1	1	BQL
Trichloroethene	1/14/97	1	1	BQL
Trichlorofluoromethane	1/14/97	1	1	BQL
Vinyl Chloride	1/14/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 601

Client Sample ID: VBLK3011397
Client Project ID: NC0360.212.006
Lab Sample ID:
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	1/13/97	1	1	BQL
Bromoform	1/13/97	1	2	BQL
Bromomethane	1/13/97	1	2	BQL
Carbon tetrachloride	1/13/97	1	1	BQL
Chlorobenzene	1/13/97	1	1	BQL
Chloroethane	1/13/97	1	1	BQL
Chloroform	1/13/97	1	1	BQL
Chloromethane	1/13/97	1	1	BQL
Dibromochloromethane	1/13/97	1	1	BQL
1,2-Dibromoethane (EDB)	1/13/97	1	1	BQL
1,2-Dichlorobenzene	1/13/97	1	1	BQL
1,3-Dichlorobenzene	1/13/97	1	1	BQL
1,4-Dichlorobenzene	1/13/97	1	1	BQL
1,1-Dichloroethane	1/13/97	1	1	BQL
1,2-Dichloroethane	1/13/97	1	1	BQL
1,1-Dichloroethene	1/13/97	1	1	BQL
cis-1,2-Dichloroethene	1/13/97	1	1	BQL
trans-1,2-Dichloroethene	1/13/97	1	1	BQL
1,2-Dichloropropane	1/13/97	1	1	BQL
cis-1,3-Dichloropropene	1/13/97	1	1	BQL
trans-1,3-Dichloropropene	1/13/97	1	1	BQL
Methylene Chloride	1/13/97	1	5	BQL
1,1,2,2-Tertrachloroethane	1/13/97	1	1	BQL
Tetrachloroethene	1/13/97	1	1	BQL
1,1,1-Trichloroethane	1/13/97	1	1	BQL
1,1,2-Trichloroethane	1/13/97	1	1	BQL
Trichloroethene	1/13/97	1	1	BQL
Trichlorofluoromethane	1/13/97	1	1	BQL
Vinyl Chloride	1/13/97	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit.

Reviewed By: _____

Results for MS/MSD
by GC 601

Client Sample ID: 70MW-10GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19337
Lab Project ID: G149-80
Analyzed By: CKC

Date Analyzed: 1/15/97
Date Collected: 1/8/97
Date Received: 1/9/97
Matrix: Water

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
Bromodichloromethane	BQL	20.0	94.8	92.7	53.3	146.7	2.2	30
Bromoform	BQL	20.0	90.1	92.0	62.6	137.4	2.1	30
Bromomethane	BQL	20.0	73.6	71.3	23.4	176.6	3.1	30
Carbon tetrachloride	BQL	20.0	88.0	75.1	>0	239.2	15.8	30
Chlorobenzene	BQL	20.0	90.5	87.0	41.5	158.5	4.0	30
Chloroethane	BQL	20.0	68.9	66.4	41.6	158.4	3.7	30
Chloroform	BQL	20.0	96.3	92.6	62.0	138.0	3.9	30
Chloromethane	BQL	20.0	55.1	53.0 *	71.1	128.9	3.8	30
Dibromochloromethane	BQL	20.0	90.7	88.8	63.3	136.7	2.1	30
1,2-Dibromoethane (EDB)	BQL	20.0	88.9	88.2	61.5	138.5	0.7	30
1,2-Dichlorobenzene	BQL	20.0	86.5	92.8	40.5	159.5	7.1	30
1,3-Dichlorobenzene	BQL	20.0	88.7	87.0	25.1	174.9	1.9	30
1,4-Dichlorobenzene	BQL	20.0	89.4	87.6	23.3	176.7	2.1	30
1,1-Dichloroethane	BQL	20.0	92.6	89.7	32.6	167.4	3.1	30
1,2-Dichloroethane	BQL	20.0	97.2	94.1	50.9	149.1	3.2	30
1,1-Dichloroethene	BQL	20.0	79.4	68.0	17.3	182.7	15.6	30
cis-1,2-Dichloroethene	BQL	20.0	85.2	80.8	>0	204.6	5.3	30
trans-1,2-Dichloroethene	BQL	20.0	89.1	84.5	25.1	174.9	5.3	30
1,2-Dichloropropane	BQL	20.0	96.1	93.1	38.3	161.7	3.1	30
cis-1,3-Dichloropropene	BQL	20.0	91.7	90.5	48.5	151.5	1.3	30
trans-1,3-Dichloropropene	BQL	20.0	96.1	94.1	59.7	140.3	2.1	30
Methylene Chloride	BQL	20.0	96.1	92.2	69.6	130.4	4.2	30
1,1,2,2-Tertrachloroethane	BQL	20.0	86.3	84.5	>0	241.2	2.1	30
Tetrachloroethene	BQL	20.0	94.5	87.9	>0	248.5	7.1	30
1,1,1-Trichloroethane	BQL	20.0	44.9	40.6	18.0	182.0	10.2	30
1,1,2-Trichloroethane	BQL	20.0	103.8	96.7	60.8	139.2	7.1	30
Trichloroethene	BQL	20.0	92.6	87.3	55.7	144.3	5.9	30
Trichlorofluoromethane	BQL	20.0	74.3	57.2	30.7	169.3	26.0	30
Vinyl Chloride	BQL	20.0	74.0	63.6	18.9	181.1	15.1	30

Comments:

Concentrations are on column amounts.

Flags:

* = Out of limits.
NA = Not applicable
BQL = Below quantitation limit.

Reviewed By: MM

Results for Laboratory Control Spike (LCS)

by GC 601

Client Sample ID: LCS011097
Client Project ID: NC0360.212.006
Lab Sample ID: None assigned
Lab Project ID: G149-80

Analyst: CKC
Date Collected: Not applicable
Date Received: Not applicable
Matrix: Water

	Spiked	LCS	Limits Lower	Limits Upper
Bromodichloromethane	20	108.5	8.1	191.9
Bromoform	20	103.7	18.5	181.5
Bromomethane	20	85.9	17.5	182.5
Carbon tetrachloride	20	98.0	15.2	184.8
Chlorobenzene	20	100.5	13.6	186.4
Chloroethane	20	80.1	13.6	186.4
Chloroform	20	110.8	7.4	192.6
Chloromethane	20	80.1	10.9	189.1
Dibromochloromethane	20	101.4	8.1	191.9
1,2-Dibromoethane (EDB)	20	103.7	>0	206.3
1,2-Dichlorobenzene	20	104.8	5.3	194.7
1,3-Dichlorobenzene	20	102.1	9.9	190.1
1,4-Dichlorobenzene	20	102.1	0.7	199.3
1,1-Dichloroethane	20	105.5	10.0	190.0
1,2-Dichloroethane	20	110.0	>0	203.0
1,1-Dichloroethene	20	86.7	16.4	183.6
cis-1,2-Dichloroethene	20	106.2	19.4	180.6
trans-1,2-Dichloroethene	20	99.7	11.7	188.3
1,2-Dichloropropane	20	109.7	9.7	190.3
cis-1,3-Dichloropropene	20	111.2	5.1	194.9
trans-1,3-Dichloropropene	20	112.0	8.5	191.5
Methylene Chloride	20	112.1	>0	261.9
1,1,2,2-Tertrachloroethane	20	165.9	>0	209.1
Tetrachloroethene	20	108.4	77.6	122.4
1,1,1-Trichloroethane	20	99.2	26.5	173.5
1,1,2-Trichloroethane	20	116.9	7.9	192.1
Trichloroethene	20	104.0	21.9	178.1
Trichlorofluromethane	20	81.2	6.8	193.2
Vinyl Chloride	20	82.0	14.5	185.5

Comments:

Concentration values are on column amount.

Flags:

* = Out of limits.
NA = Not applicable

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-7GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19334
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/08/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/15/97	1	1	BQL
Diisopropyl ether (DIPE)	1/15/97	1	1	BQL
Ethylbenzene	1/15/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/15/97	1	2	BQL
Toluene	1/15/97	1	1	BQL
m/p-Xylene	1/15/97	1	2	BQL
o-Xylene	1/15/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-8GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19335
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/07/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/11/97	1	1	BQL
Diisopropyl ether (DIPE)	1/11/97	1	1	BQL
Ethylbenzene	1/11/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/11/97	1	2	BQL
Toluene	1/11/97	1	1	BQL
m/p-Xylene	1/11/97	1	2	BQL
o-Xylene	1/11/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-9GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19336
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/07/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/14/97	1	1	BQL
Diisopropyl ether (DIPE)	1/14/97	1	1	BQL
Ethylbenzene	1/14/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/14/97	1	2	BQL
Toluene	1/14/97	1	1	BQL
m/p-Xylene	1/14/97	1	2	BQL
o-Xylene	1/14/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-10GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19337
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/08/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/14/97	1	1	BQL
Diisopropyl ether (DIPE)	1/14/97	1	1	BQL
Ethylbenzene	1/14/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/14/97	1	2	BQL
Toluene	1/14/97	1	1	BQL
m/p-Xylene	1/14/97	1	2	BQL
o-Xylene	1/14/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70MW-11GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19338
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/08/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/14/97	1	1	BQL
Diisopropyl ether (DIPE)	1/14/97	1	1	BQL
Ethylbenzene	1/14/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/14/97	1	2	BQL
Toluene	1/14/97	1	1	BQL
m/p-Xylene	1/14/97	1	2	BQL
o-Xylene	1/14/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70REP-01-GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19341
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/07/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/15/97	1	1	BQL
Diisopropyl ether (DIPE)	1/15/97	1	1	BQL
Ethylbenzene	1/15/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/15/97	1	2	BQL
Toluene	1/15/97	1	1	BQL
m/p-Xylene	1/15/97	1	2	BQL
o-Xylene	1/15/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70EB-01-GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19342
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/08/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/15/97	1	1	BQL
Diisopropyl ether (DIPE)	1/15/97	1	1	BQL
Ethylbenzene	1/15/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/15/97	1	2	BQL
Toluene	1/15/97	1	1	BQL
m/p-Xylene	1/15/97	1	2	BQL
o-Xylene	1/15/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: 70TB-01-(1/7/97)
Client Project ID: NC0360.212.006
Lab Sample ID: 19343
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected: 01/07/97
Date Received: 01/09/97
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/11/97	1	1	BQL
Diisopropyl ether (DIPE)	1/11/97	1	1	BQL
Ethylbenzene	1/11/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/11/97	1	2	BQL
Toluene	1/11/97	1	1	BQL
m/p-Xylene	1/11/97	1	2	BQL
o-Xylene	1/11/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: VBLK3011097
Client Project ID: NC0360.212.006
Lab Sample ID:
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/10/97	1	1	BQL
Diisopropyl ether (DIPE)	1/10/97	1	1	BQL
Ethylbenzene	1/10/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/10/97	1	2	BQL
Toluene	1/10/97	1	1	BQL
m/p-Xylene	1/10/97	1	2	BQL
o-Xylene	1/10/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	40	100

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: VBLK3011397
Client Project ID: NC0360.212.006
Lab Sample ID:
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/13/97	1	1	BQL
Diisopropyl ether (DIPE)	1/13/97	1	1	BQL
Ethylbenzene	1/13/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/13/97	1	2	BQL
Toluene	1/13/97	1	1	BQL
m/p-Xylene	1/13/97	1	2	BQL
o-Xylene	1/13/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	98

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: bm

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GC 602

Client Sample ID: VBLK3011497
Client Project ID: NC0360.212.006
Lab Sample ID:
Lab Project ID: G149-80

Analyzed By: CKC
Date Collected:
Date Received:
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	1/14/97	1	1	BQL
Diisopropyl ether (DIPE)	1/14/97	1	1	BQL
Ethylbenzene	1/14/97	1	1	BQL
Methyl-tert-butyl ether (MTBE)	1/14/97	1	2	BQL
Toluene	1/14/97	1	1	BQL
m/p-Xylene	1/14/97	1	2	BQL
o-Xylene	1/14/97	1	2	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	39	98

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [illegible]

Results for MS/MSD

by GC 602

Client Sample ID: 70MW-10GW
Client Project ID: NC0360.212.006
Lab Sample ID: 19337
Lab Project ID: G149-80

Analyzed By: WML
Date Collected: 01/08/97
Date Received: 01/09/97
Matrix: Water

	Sample	Spiked	MS	MSD	Limits Lower	Limits Upper	RPD	Limit Max.
Benzene	BQL	20.0	93.9	93.2	55.0	145.0	0.7	30
Diisopropyl ether	BQL	20.0	84.8	85.0	69.1	130.9	0.3	30
Ethylbenzene	BQL	20.0	96.8	95.1	42.9	157.1	1.8	30
Methyl-tert butyl ether	BQL	20.0	32.4	31.5	21.8	178.2	2.9	30
Toluene	BQL	20.0	83.4	82.5	50.4	149.6	1.2	30
m/p-Xylene	BQL	20.0	91.6	89.6	43.0	157.0	2.2	30
o-Xylene	BQL	20.0	81.1	79.7	63.1	136.9	1.7	30

Comments:

Concentrations are corrected for dry weight.

Flags:

* = Out of limits.
NA = Not applicable
BQL = Below quantitation limit.

Reviewed By: WM

GERAGHTY & MILLER, INC.
Environment and Infrastructure
a heidemij company

Laboratory Task Order No. 20654

CHAIN-OF-CUSTODY RECORD

149-80

Page 1 of 1

Project Number NC0560.212.006

Project Location NCDOT Site No. 70 Lumberton NC

Laboratory Paradigm

Sampler(s)/Affiliation Sean Patrick Geraghty & Miller

SAMPLE IDENTITY	Code	Date/Time Sampled	Lab ID	SAMPLE BOTTLE / CONTAINER DESCRIPTION: 601/602 40ml vials preserved HCl @ 4°C									TOTAL
70MW-7 GW	L	1/8/97 1106		4									4
70MW-8 GW	L	1/9/97 1453		4									4
70MW-9 GW	L	1/7/97 1554		4									4
70MW-10 GW	L	1/8/97 0853		4									4
70MW-11 GW	L	1/8/97 1002		4									4
70MW-10MS	L	1/8/97 0853		4									4
70MW-10MSD	L	1/8/97 0853		4									4
70REP-01-GW	L	1/7/97 —		4									4
70EB-01-GW	L	1/8/97 1030		4									4
70TB-01-(1/7/97)	L	1/7/97 —		4									4

Sample Code: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers 40

Relinquished by: Sean Patrick	Organization: Geraghty & Miller	Date 1/8/97 Time 1745	Seal Intact? Yes No N/A
Received by: [illegible]	Organization: PAL	Date 1/9/97 Time [illegible]	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	

Special Instructions/Remarks: Temp = 10C

Delivery Method: ☐ In Person ☒ Common Carrier Federal Express (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

FedEx USA Airbill

Tracking Number 7746375910

FedEx Retrieval Copy

172 FOC 23775421 5283

1 From

Date 1/8/97 Sender's FedEx Account Number

Sender's Name Sean Patrick Phone (919) 571-1662

Company Geraghty & Miller Dept./Floor/Suite/Room 350

Address 2340 Plaza Place

City Raleigh State NC Zip 27612

Your Internal Billing Reference Information NC0300.212.006 00T70 GW

2 To

Recipient's Name Phone (510-350-1903

Company PARALION ANALYTICAL LABS Dept./Floor/Suite/Room

Address 2527 NORTHCHASE PKWY SE

MILPITAS City Rate NC State 28405

For "HOLD" Service check here

For Saturday Delivery check here

4 Service*

- [X] FedEx Priority Overnight
- [ ] FedEx Standard Overnight
- [ ] FedEx 2Day
- [ ] FedEx Govt. Overnight
- [ ] FedEx Overnight Freight
- [ ] FedEx 2Day Freight
- [ ] NEW FedEx First Overnight

5 Packaging

- [ ] FedEx Letter
- [ ] FedEx Pak
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other Packaging

6 Special Handling

Does this shipment contain dangerous goods?

- [ ] Yes
- [ ] Yes
- [ ] Dry Ice
- [ ] Cargo Aircraft

7 Payment

Bill to:

- [ ] Sender
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card

FedEx Account No 1811-4169-1

Credit Card No Exp. Date

Total Packages Total Weight Total Charges

Credit Card Auth.

CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information

8 Release Signature

This signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

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WCSL 0995

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GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

LABORATORY TASK ORDER

Task Order No.: 20654

Geraghty & Miller Office: Raleigh, NC Phone: [illegible] Date: [illegible]
Address: [illegible]
[illegible] Project Number: [illegible]
Project Name: [illegible] Location: [illegible] Laboratory Reporting Level: ☐ I ☒ II+ ☐ III ☐ IV
Phase II
Laboratory: [illegible] Phone: [illegible] Contact: [illegible]
Provides Sample Containers? ☒ Yes ☐ No Date Required: 12/27/96 Ship To: [illegible]
Estimated Date Of Sample Receipt By Laboratory: 1/4/96 Report Due: 1/18/96
Reports Delivered To: [illegible]
Work Description: [illegible] Number Of Reports: 1
Send Invoice To: [illegible]

PHYSICAL PROPERTIES	# Water	Method	Det. Limit	# Soil	Method	Det. Limit
pH						
Spec. Cond.						
Hardness (total)						
TDS						
TSS						
Temperature						
Turbidity						
Ignitability						
Corrosivity						
Reactivity						
E.P. Tox. Extraction						
TCLP Extraction						
E.P. Tox. Complete						
TCLP Complete						
METALS¹						
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Hex Chromium						
[illegible]						
[illegible]						
Lead						
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Tin						
Vanadium						
Zinc						
Priority Pollutant Metals²						
TCL (HSL) Metals²						

NON-METALLICS	# Water	Method	Det. Limit	# Soil	Method	Det. Limit
Acidity						
Alkalinity (Total)						
Carbonate						
Bicarbonate						
Bromide						
Chloride						
Cyanide						
Fluoride						
Ammonia						
Nitrate						
TKN						
Nitrite						
Phosphorus						
Silica						
Sulfate						
Sulfide						
Surfactants (MBAS)						
ORGANICS						
BOD						
COD						
Oil & Grease						
TOC						
TOX						
TRPH						
Purg. Halocarbons²						
Non-Halogenated VOCs²						
Purgeable Arom.²						
Phenols²						
Pesticides/PCBs²						
PNAs²						
Org. Phos. Pest.²						
Dioxins						
Chlor. Herb.²						
Volatile Organics²	5+5QC	[illegible]	1.0 [illegible]			
Semi Volatile Organics²						
APPENDIX IX³						
RADIONUCLIDES						
Gross Alpha						
Gross Beta						
Radium 226						
Radium 228						

¹ Metals are Total Metals Unless Specified as Dissolved Under Special Instructions. ² Attach Table of Elements or Compounds to be Analyzed. ³ Includes All Organic and Inorganic Compounds.

Special Instructions Or Other: [illegible]

G&M Project Manager Signature: [illegible] Date: [illegible] G&M QA Officer Signature: [illegible] Date: 12-23-96
Laboratory Acceptance: ____________ Date: ______

G&M Form 32

☐ No Changes

LABORATORY TASK ORDER AMENDMENTS

Required Change: ____________

G&M Representative Signature: ____________ Date: ______

RETURN YELLOW COPY TO PROJECT MANAGER OR QUALITY ASSURANCE OFFICER — ATTACH PINK COPY TO CHAIN OF CUSTODY FORM