PCB REMEDIATION PLAN

Yale University

Kline Geology Laboratory

New Haven, Connecticut

1.866.702.6371
35 New England Business Center
Andover, MA

224415.00
Yale - KGL
August 2011

TABLE OF CONTENTS

SECTION		PAGE NO.
1.	**INTRODUCTION**	**1-1**
1.1	Conceptual Site Model	1-1
1.2	Plan Organization	1-2
1.3	Certification	1-3
2.	**SAMPLE COLLECTION, ANALYSES, AND USABILITY**	**2-1**
2.1	Characterization Sample Collection	2-1
2.2	Laboratory Analysis	2-2
2.3	Data Usability Assessment	2-2
3.	**REMEDIATION PLAN OVERVIEW**	**3-1**
4.	**WINDOW CAULKING, FRAMES, AND COMPONENTS**	**4-1**
4.1	Characterization	4-1
4.2	Site Preparation and Controls	4-1
4.3	Remediation Plan	4-2
5.	**INTERIOR BUILDING MATERIALS**	**5-1**
5.1	Characterization	5-1
5.2	Remediation Plan	5-2
5.2.1	Site Preparation	5-3
5.2.2	Encapsulation	5-3
5.2.3	Verification Sampling	5-3
6.	**EXTERIOR BUILDING MATERIALS**	**6-1**
6.1	Characterization	6-1
6.1.1	Brick	6-1
6.1.2	Brownstone Sills	6-1
6.1.3	Plaster Ceiling	6-1
6.1.4	Concrete Sills	6-2
6.1.5	Terrazzo Floor	6-2
6.2	Additional Sampling	6-2
6.3	cleanup levels	6-3
6.4	Remediation PLan	6-4
6.4.1	Site Preparation	6-5
6.4.2	Brick	6-5
6.4.3	Brownstone	6-5
6.4.4	Concrete Sills	6-6
6.4.5	Plaster Ceiling	6-6
6.4.6	Terrazzo Floor	6-6
6.5	Verification Sampling	6-7
6.5.1	Direct Contact Sampling	6-7
6.5.2	Adjacent Materials Sampling	6-7

7. WASTE STORAGE AND DISPOSAL 7-1

8. CONCEPTUAL MONITORING AND MAINTENANCE PLAN 8-1

9. SITE RESTORATION AND PROJECT SCHEDULE 9-1

10. COMMUNICATION AND DOCUMENTATION 10-1

LIST OF TABLES

TABLE

Table 2-1: Caulking and Sealant Analytical Data Summary

Table 2-2: Building Materials Analytical Data Summary

Table 2-3: Indoor Air Analytical Data Summary

Table 3-1: Remediation Summary

LIST OF FIGURES

FIGURE

Figure 1-1: Site Locus

LIST OF APPENDICES

APPENDIX

Appendix A: Written Certification

Appendix B: Analytical Laboratory Reports and Data Validation Summary

Appendix C: Project Specification Drawings

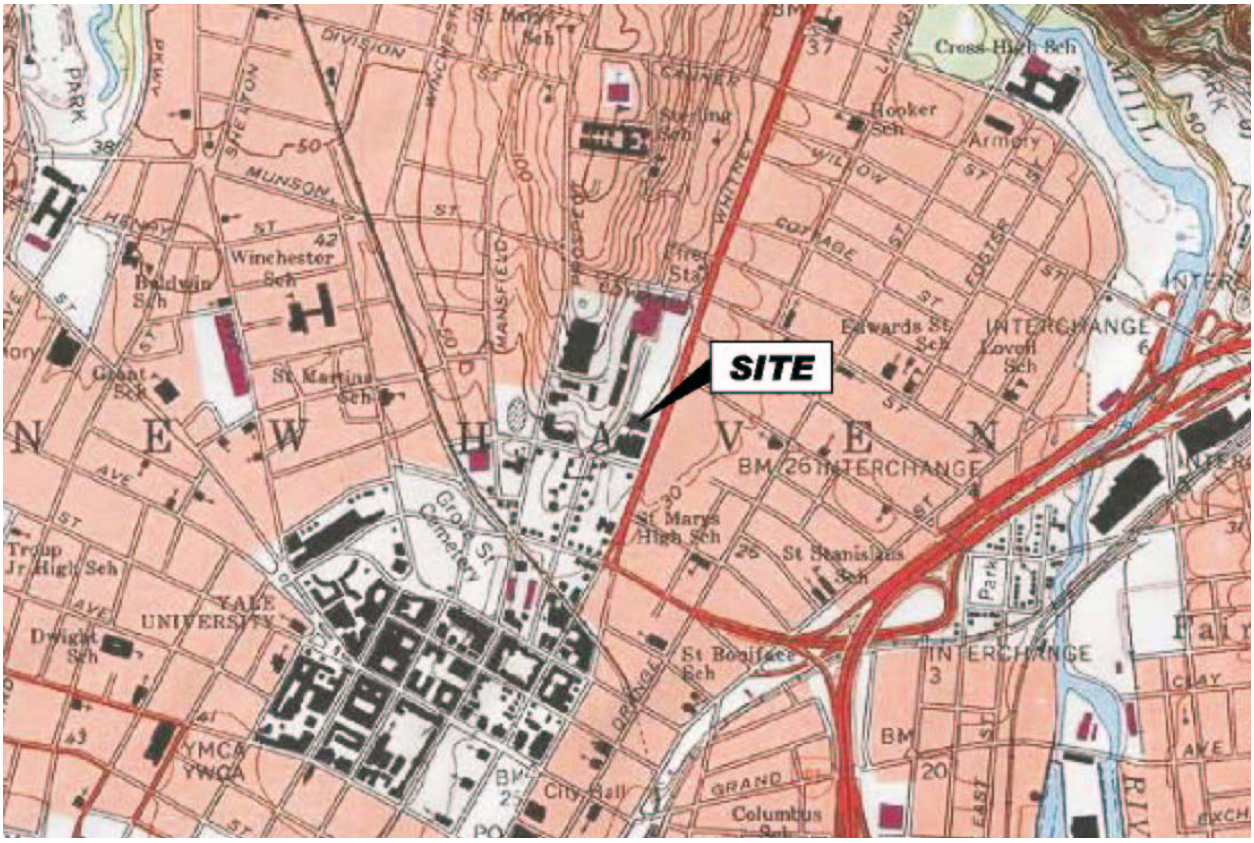
Appendix D: Perimeter Air Monitoring Plan and Log Sheet

Appendix E: Product Technical Specifications

1. INTRODUCTION

This remediation plan has been prepared by Woodard & Curran (W&C) on behalf of Yale University (Yale) to comply with U.S. Environmental Protection Agency (EPA) requirements for a polychlorinated biphenyl (PCB) cleanup and disposal under 40 CFR Part 761.61. This plan describes the data collected and details the proposed remedial approach for PCB-containing caulking and PCB-impacted building materials to be encountered during planned renovations at the Kline Geology Building located at 210 Whitney Avenue on the Yale's New Haven, Connecticut Campus (Figure 1-1).

Figure 1-1



The three-story building is primarily utilized as a graduate research laboratory and includes laboratories, lecture halls, student and faculty offices, and a library on the third floor. The Kline Geology Laboratory Building is located in the Science Hill area of the Yale campus and is surrounded by Whitney Avenue to the east, parking areas to the north, University laboratories to the west, and a museum to the south. Surrounding ground surfaces are generally flat or slightly sloped away from the building and are either covered with asphalt pavement, brownstone, concrete, or landscaped areas.

1.1 CONCEPTUAL SITE MODEL

In preparation for a building wide window replacement project, a materials survey was conducted to assess for the presence of various hazardous materials that may be encountered during the project. This included inspection and sampling of suspect materials for asbestos and PCBs.

Certain joint caulking used as part of standard construction practices for masonry buildings and concrete structures erected between the 1950's and late 1970's is known to have been manufactured with PCBs. PCBs were added to caulking for durability, resistance to degradation, and as a softener/plasticizer for application. Due to the porous nature of concrete and other masonry surfaces, PCBs in caulking may penetrate into adjacent materials during application or over time, may leach or weather, and/or may be disturbed during renovations or other work. Production and approved usage of PCBs was halted in the United States in the late 1970s. The Kline Geology Laboratory was constructed in 1963.

A total of 76 windows are present on the building exterior and scheduled to be replaced as part of the upcoming project. Interior and exterior window caulking and glazing sealants (caulking) on these windows were observed during the survey and samples were collected for analysis. Results from the sealant sampling indicated that PCBs were present in interior and exterior caulking and glazing sealants at concentrations ≥ 50 ppm.

Typical Window

Based on the results of the caulking samples, characterization samples of interior and exterior building materials adjacent to the caulking were collected to characterize PCB impacts to these materials. Characterization sample results have been used, in conjunction with the overall renovation plan, to develop a remediation plan for the removal and disposal of ≥ 50 ppm PCB-containing caulking and associated window frames and the in-place management of building materials adjacent to the caulking given the structural and architectural nature of the building.

The window replacement activities are scheduled to begin in the fall of 2011.

1.2 PLAN ORGANIZATION

This Remediation Plan is organized into the following sections:

Section 2: Sample Collection, Analyses, and Usability

This section provides a description of the sample collection methods, laboratory testing, and data usability evaluation performed for the samples collected in support of this plan development. Specific details on the results, including data tables, figures, and photographs are not presented in this section, but rather in the individual sections that follow.

Section 3: Remediation Plan Overview

This section presents an overview of the remedial plans and approaches for the different PCB containing or affected materials to be managed during the project.

Section 4: Window Caulking, Frames, and Components

This section presents the characterization data associated with the caulking followed by the proposed remediation and disposal of the caulking and associated window frames and components.

Section 5: Interior Building Materials

This section presents the characterization data associated with the interior building materials followed by the proposed remediation and verification process.

Section 6: Exterior Building Materials

This section presents the characterization data associated with the exterior building materials followed by the proposed remediation and verification process.

Section 7: Waste Storage and Disposal

This section describes the management of PCB wastes, the on-site temporary storage of PCBs wastes, and lists proposed disposal facilities for transport and disposal of the wastes.

Section 8: Conceptual Monitoring and Maintenance Plan

Given that this plan includes proposed approaches for the in-place management of PCBs, a conceptual monitoring and maintenance plan is provided in this section.

Section 9: Site Restoration and Project Schedule

This section includes a brief summary of the work area restoration as part of the overall window replacement project and the anticipated schedule.

Section 10: Communication and Documentation

This section describes the communications between Yale and building occupants and project team members, as well as the project documentation that will be developed as part of the project.

1.3 CERTIFICATION

A copy of the written certification signed by the owner of the property and required as part of this plan submittal is provided in Appendix A.

2. SAMPLE COLLECTION, ANALYSES, AND USABILITY

This section provides a description of the sample collection methods, laboratory testing, and data usability evaluation performed for the samples collected in support of this plan development. Specific details on the results, including data tables, figures, and photographs are not presented in this section, but rather in the individual sections that follow.

During characterization activities, samples were collected from the following media: caulking; interior CMU block, brick, brownstone, concrete window sills, plaster ceiling, and terrazzo tile flooring, in observance of proper sample collection techniques, analytical methods, and reporting procedures.

2.1 CHARACTERIZATION SAMPLE COLLECTION

Characterization sampling was conducted to determine the nature and extent of PCBs originating from the interior and exterior caulking and to establish the limit of in-place management of adjacent building materials. A total of seven caulking samples and 37 building material samples were collected and analyzed for PCBs. A breakdown of samples collected by media is provided below:

- Interior Caulking (1,320 l.f.) – Two samples of interior caulking were collected. Analytical results indicated that PCBs were present at concentrations of 160,000 and 200,000 ppm;
- Exterior Caulking (1,576 l.f.) – Two samples of exterior caulking were collected. Analytical results indicated that PCBs were present at concentrations of 220,000 and 270,000 ppm;
- Interior Glazing Sealant (76 windows) – Two samples of interior glazing sealant were collected. Analytical results indicated that PCBs were present at concentrations of 4,300 and 5,600 ppm;
- Exterior Glazing Sealant (76 windows) – One sample of exterior glazing sealant was collected. Analytical results indicated that PCBs were present at a concentration of 3,800 ppm.
- Interior CMU Block – 22 samples of interior CMU block were collected from six rooms to distances ranging from 3 to 36 inches from the caulked joint. Analytical results indicated that PCBs were present at concentrations > 1 ppm at varying distances from the caulked joint and descended to < 1 ppm on five of six samples collected at a distance of 36 inches from the caulked joint;
- Brick – Seven samples of brick were collected from five locations at distances of up to three inches from exterior caulked joints. Analytical results indicated that the concentrations of PCBs were < 1 ppm at distances of 0.5 to 1 inch and 3 inches from the caulked joints;
- Brownstone – Three samples of brownstone were collected from one location at distances of one, three, and four inches from the exterior caulked joint. Analytical results indicated that PCBs were present at concentrations of 6.0, 1.2, and 1.1 ppm, respectively;
- Plaster Ceiling – Two samples of plaster ceiling were collected from the second floor at distances of 3.5 and 9.5 inches from the caulked joint. Analytical results indicated that PCBs were present at concentrations of 0.81 and 0.32 ppm, respectively;
- Concrete Sills – One sample of concrete was collected from below a basement level window at a distance of 11 inches from the caulked joint. Analytical results indicated that PCBs were present at a concentration of 0.53 ppm; and
- Terrazzo Floor – Two samples of terrazzo floor were collected from the second floor at distances of 0.5 and 3 inches from the caulked joint. Analytical results indicated that PCBs were present at concentrations of 1.1 and 0.3 ppm, respectively.

- Indoor Air Samples - Samples were collected from four representative locations in the building. Analytical results indicated that that the concentrations of total PCBs ranged from 98 to 600 ng/m^3 in the samples.

Analytical results from the caulking and glazing sealant characterization sampling are presented on Table 2-1. Analytical results from the building materials characterization sampling are presented on Table 2-2. Analytical results from the indoor air sampling are presented on Table 2-3.

Caulking samples were collected by cutting and scraping the material from the joint with hand tools. If adjacent media (e.g., concrete or a foam backer rod) was inadvertently removed in the process of sample collection, this media was physically removed from the caulking before the sample was placed in its sample container.

Building material sampling was conducted in accordance with the USEPA Region I Draft Standard Operating Procedure for Sampling Concrete in the Field (December 1997); concrete was ground into dust using a hammer drill to a depth of 0.5 inches into the masonry.

All reusable sampling equipment was decontaminated between each sampling location by scrubbing with a biodegradable soap and water solution (Alconox) followed by a water rinse.

Indoor air samples were collected from four representative locations in the building, including two locations where corresponding adjacent material building samples were collected. Samples were collected during the week of July 11, 2011 to evaluate potential PCB concentrations in indoor air with source material (caulking) in place. Air samples were collected in accordance with USEPA Compendium Method TO-10A *"Determination of Pesticides and Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)"* and submitted for laboratory analysis of PCB homologs.

At each of the sample locations a low volume PUF cartridge was connected to a personal air pump with flexible tubing. The cartridge was positioned between 3 and 5 feet above the floor using a telescoping stand and tubing in the approximate center of the selected rooms. To achieve the desired minimum laboratory reporting limit, samples were collected at an average flow rate of 4.3 L/min for approximately four hours (a summary of information for each of the three samples is presented on Table 2-3). At the end of the required sample interval, the pumps were shut off and the cartridges placed in aluminum foil, labeled, and placed on ice for delivery to the analytical laboratory.

2.2 LABORATORY ANALYSIS

All samples were logged on standard Chain-of-Custody (COC) forms and stored on ice for delivery to Con-test Analytical Laboratory of East Longmeadow, Massachusetts. All samples were extracted using USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs using USEPA Method 8082.

The complete laboratory analytical reports for the samples are provided in Appendix B.

2.3 DATA USABILITY ASSESSMENT

This data quality and data usability assessment has been conducted to review the 44 bulk samples and four indoor air samples collected to date in support of the characterization activities. This precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) evaluation includes an assessment of those parameters as well as quality assurance / quality control (QA/QC) samples as they affect the usability of sample results. These indicators have been examined in the context of the intended use of the data, and an overall assessment of site conditions.

The review included a check of field documentation including sample collection and preservation methods, a check of the laboratory data and documentation, a review of the internal laboratory QA/QC procedures and results including surrogate recoveries, matrix spike and matrix spike duplicate results (bulk samples only), blank results, and laboratory control standard results, and an evaluation of sample holding times. The assessment was performed in general accordance with the Region I, EPA NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996 criteria, and its updates in Parts I-IV, November 2008 as well as the referenced methods. The data validation summary for the data is provided with the laboratory analytical reports in Appendix B. Highlights of the data quality and data usability assessment that resulted in applying qualifications to the data are summarized below:

- The PCB surrogate recovery met the acceptance criteria (30 – 150% for bulk samples and 50-125% for air samples) or were diluted out with the exception of sample KGL 201-AX; the Aroclor 1254 result for this sample has been qualified as estimated (J);
- The PCB matrix spike/matrix spike duplicate results met the acceptance criteria with the exception of those results associated with samples 102EX, KGL 335 18, and KGL 122-36; the Aroclor 1254 results for these samples have been qualified as estimated (J);
- The Relative Percent Difference (RPD) between the column results met the acceptance criteria (≤ 25%) with the exception of the Aroclor 1248 results for samples KGL 111-A and KGL 111-15 CMU; the Aroclor 1248 results for these samples have been qualified as estimated (J).

One equipment blank sample was submitted for analysis with the bulk samples and one field blank sample was submitted with the air samples. No analytes were detected in the field or equipment blank samples, and no qualifications were applied.

Based on a review of the analytical results with regard to the PARCCS parameters, this data quality / data usability assessment indicates that the data is of sufficient quality for use in developing the conceptual site model described herein and for use in developing the remediation plan presented in this plan.

3. REMEDIATION PLAN OVERVIEW

This plan has been developed for the remediation of PCB-affected media that will be disturbed during the Kline Geology Laboratory window replacement project. The removal project involves the removal and replacement of Type A, Type B, and Type C windows from all four building elevations as shown on the project specification drawings included as Appendix C. A general overview of the proposed remedial activities is presented below with detailed descriptions of the plan for each of the affected media presented in the following sections.

The remediation plan proposed herein is a combination of a removal and off-site disposal of PCB bulk product waste under 40 CFR 761.62 with a risk-based cleanup and disposal request prepared in accordance with 40 CFR Part 761.61(c) for PCB Remediation Wastes (CMU block, brick, concrete, etc.).

In summary, all caulking encountered/disturbed within the work area will be removed and disposed off-site as a ≥ 50 ppm PCB waste. Window frames and components (including glass) will be removed for off-site disposal as ≥ 50 ppm PCB waste.

Residual concentrations of PCBs on interior CMU block and exterior materials (brick, brownstone, concrete, plaster, and terrazzo floor) are not scheduled for removal during the project and instead are proposed to be contained and managed in-place to prevent direct contact with PCBs and/or potential migration effects to other media. The rationale for this decision is that the removal or scarification of these materials could result in structural damage to the building and result in significant aesthetic changes to the architectural appearance of the building (for example, brownstone construction). Building material removals would also result in the need for extensive window re-configurations not planned for this window replacement project that would change the historic appearance of the building.

The in-place management of PCB remediation waste is an interim solution designed to shield impacted materials from the effects of weathering and leaching mechanisms, thereby eliminating potential exposure pathways and mitigating the potential for PCB transfer via direct contact and/or leaching to other media/materials. Accordingly, there will be no resultant exposure to PCBs. The remnant PCBs therefore will not present a risk to human health or to the environment. Proper disposal of any remaining PCB remediation waste will be required upon removal of the material or at the time of structure demolition.

A summary of the remedial approach for the caulking and building materials is presented on Table 3-1.

4. WINDOW CAULKING, FRAMES, AND COMPONENTS

This section presents the characterization data associated with the caulking followed by the proposed remediation for the caulking and window frames and components (including glass).

4.1 CHARACTERIZATION

As part of the initial inspection, an inventory of windows was conducted. As shown in Appendix C, a summary of the windows included in the scope of the planned renovations is as follows:

- Type A – A total of 67 windows with dimensions of approximately 2 ft. by 9 ft. are located on the first, second, and third floors of all four building elevations. Caulking is present on interior and exterior metal frame to building materials joints with the exception of the interior lower horizontal joints which are not caulked.
- Type B – A total of 2 storefront type windows with dimensions of approximately 7 ft. by 17 ft. are present on the second and third floors of the northern building elevation. Caulking is present on interior and exterior metal frame to building material joints with the exception of the interior lower horizontal joints which are not caulked.
- Type C – A total of five windows with dimensions of approximately 2 ft by 9 ft. are located on the basement floor of the east building elevation. Caulking is present on interior and exterior metal frame to building materials joints with the exception of the interior lower horizontal joints which are not caulked.

Caulking samples were collected from various locations across the building to determine the concentrations of PCBs in the caulking. The sample locations were spatially distributed throughout the work area and collected from interior and exterior joints. A total of seven samples were collected as presented on Table 2-1.

As indicated on Table 2-1, all samples detected PCBs at concentrations > 50 ppm ranging from 3,800 ppm in the exterior window glazing sealant sample to 270,000 ppm in one of the exterior window caulking samples. Aroclor 1254 was the only Aroclor reported in the samples. Based on these results, all caulking encountered during the project is being managed as ≥ 50 ppm PCB wastes.

4.2 SITE PREPARATION AND CONTROLS

Prior to initiating the removal of PCB containing caulking and associated window frames, the following controls will be implemented:

- A Health & Safety Plan will be developed for the specific work activities to be conducted. Workers will follow applicable Federal and State regulations regarding the work activities, including but not limited to OSHA regulations, fall protection standards, respiratory protection, ladder/scaffolding safety, personal protective equipment, etc.;
- Additional notifications and plans required for the work activities will also be prepared and submitted for approval, as needed;
- Access to the active work areas will be restricted by fencing and signage with controlled access points;
- Prior to initiation and periodically during the work activities, project-related communications with building occupants and contractors will be undertaken on an as needed basis. These communications may include schedule updates regarding disruption to particular areas, restrictions on exterior door use, or significant project updates;

- To reduce particulate levels and exposures to airborne particulates, a combination of engineering controls (e.g., work zone enclosures, wetting, etc.) and personal protective equipment (PPE) will be implemented as part of the work activities;
- Polyethylene containment will be constructed enclosing each area prior to work. The containment will be constructed to a distance of three to four feet from the interior wall surface and as needed on exterior locations to control dust and debris during removal. Wet wiping and water misting will be used as a dust suppressant as appropriate. No grinding or saw cutting will be used for caulking removal. Dust monitoring will be conducted in accordance with Appendix D during active caulking removal and during the removal of residual caulking following window removal; and
- Ground cover (polyethylene sheeting or equivalent) will be placed on the scaffolding or aerial lifts used for access to the windows and along the building walls to serve as containment for any debris or building materials removed. Any debris collected within the polyethylene containment areas or on ground cover sheeting will be gathered and placed in the appropriate containers at the end of each work day. After use, disposable PPE and poly sheeting used to collect debris will placed in the appropriate containers for disposal as PCB waste.

4.3 REMEDIATION PLAN

The caulking and window removal task described below includes the removal and off-site disposal of the caulking encountered and the associated window frames and components (including glass) during the performance of the window replacement project.

- Removal of the majority of the caulking will be done during window removal. Windows will be removed as single units with minimal size reduction performed as required for safe management and handling (i.e., the storefront windows may be required to be removed in sections due to the large size);
- Removal of the remaining caulking will be conducted using hand tools or electric caulking removal tools to achieve caulking removal to the maximum extent practicable while minimizing dust or other airborne particulates generated from caulking or adjacent materials. There will be no grinding or saw cutting;
- Upon the completion of caulking removal activities, the joints will be visually inspected for the presence of any residual caulking. If residual caulking is observed, it will be removed from the adjacent material to the maximum extent practicable;
- Wet wiping and/or vacuuming of all tools and equipment in the work area will be performed at the completion of the work activity;
- During the project, equipment and tools used in the process will be decontaminated through spraying and wet wiping. At the completion of the project, any non-disposable equipment and tools that handled PCB material will be decontaminated following the procedures described in 40 CFR 761.79;
- Any debris collected on the polyethylene sheeting will be gathered and placed in the ≥ 50 ppm PCB waste containers at the end of each work day. After use, disposable PPE and poly sheeting used to collect debris will placed in the appropriate containers for disposal as PCB waste;
- All removed caulking, window frames and components (including glass), and associated debris will be transported for off-site disposal as ≥ 50 ppm PCB wastes in accordance with 40 CFR 761 Subpart D requirements (refer to Section 7 of this Plan); and
- Following completion of removal activities the work area will be cleaned through HEPA vacuuming and wet wiping in preparation for the application of the liquid sealant.

5. INTERIOR BUILDING MATERIALS

This section presents the characterization data associated with interior building materials surrounding each of the three types of windows followed by the proposed remediation and verification process.

5.1 CHARACTERIZATION

The interior building walls adjacent to the windows consist of CMU block (the majority of areas) and drywall (2 locations). The windows are installed flush with the interior wall surfaces and extend from the floor to a point approximately six to twelve inches below a drop ceiling. Photographs depicting each of these configurations are shown below:

Photo above left: Interior CMU block wall adjacent to and above Type A window (drop ceiling is visible in the upper corner of the picture and has been removed directly above the window for documentation purposes). Also includes a "fixed object" (fire curtain runner) installed in the CMU block within the limits of the proposed encapsulation area. Caulking is present on both vertical and the upper horizontal metal frame to CMU block wall joints.

Photo above right: Interior dry wall adjacent to and above Type A window to be removed. Caulking is present on both vertical and the upper horizontal metal frame to CMU block wall joints.

As indicated, caulking is present along both vertical and the upper horizontal metal window frame to wall joints. Caulking is not present along the lower horizontal joints. In multiple locations, fixed objects such as metal shelving, cabinets, and fire curtain runners (as in the photo above) are installed in the CMU block within the limits of the proposed encapsulation.

Initial characterization samples of CMU block were collected from set distances away from the caulked joints at three locations. Results of this initial sampling are summarized below:

- 3 inches from the caulked joint – analytical results indicated that PCBs were present at concentrations of 10.6, 10.9, and 17.2 ppm;

- 6.5 inches from the caulked joint – analytical results indicated that PCBs were present at concentrations of 5.4, 7.8, and 7.0 ppm;
- 10 inches from the caulked joint – analytical results indicated that PCBs were present at concentrations of 1.17, 2.06, and 3.4 ppm; and
- 12 inches from the caulked joint – analytical results indicated that PCBs were present at concentrations of 0.67, 4.8 and 6.4 ppm.

Based on these results additional samples were collected from these and three other locations at distances of up to 36 inches from the caulked joints. A summary of analytical results from samples collected is as follows:

- 15 inches from the caulked joint – analytical results indicated that PCBs were present at concentrations of 3.8 and 6.3 ppm;
- 18 inches from the caulked joint – analytical results indicated that PCBs were present at a concentration of 2.3 ppm;
- 24 inches from the caulked joint – analytical results indicated that PCBs were present at a concentration of 1.2 ppm; and
- 36 inches from the caulked joint -
    - < 1 ppm – Results from 5 of 6 samples indicated that PCBs were present at concentrations of 0.29, 0.37, 0.49, 0.89, and 0.92 ppm; and
    - > 1 ppm – Results from 1 sample (collected in Room 335) indicated that PCBs were present at a concentration of 2.2 ppm (Note: CMU block within Room 335 is visually different than that observed in the other rooms from which samples were collected).

A summary of the characterization sample results is included on Table 2-2. Based on these results, a remedial plan for the in-place management of interior building materials through the application of an encapsulation barrier was developed.

Indoor air samples were collected from four representative locations in the building, including two locations where corresponding adjacent material building samples were collected. Samples were collected during the week of July 11, 2011 to evaluate potential PCB concentrations in indoor air with source material (caulking) in place. Analytical results indicated that that the concentrations of total PCBs were 99, 380, 510, and 600 ng/m^3 in the samples. A summary of the indoor air sampling results is presented on Table 2-3.

For comparison purposes, the indoor air results were compared to EPA's September 2009 public health level for PCBs in school indoor air for ages 19 plus and adults, which is 450 ng/m^3. Two of the four samples contained PCBs at concentrations slightly above this level with the average of the samples (396 ng/m^3) slightly below the level.

5.2 REMEDIATION PLAN

Interior wall surfaces consisting of CMU block and drywall materials (collectively referred to as CMU) containing PCBs at concentrations above the high occupancy clean up criteria of ≤ 1 ppm will be managed in place through the application of a liquid encapsulant to prevent direct contact exposures and migration of the PCBs outside the existing limits of impacts.

The following sections provide details on site preparation and control activities, the remedial approach, and verification process.

5.2.1 Site Preparation

The application of the liquid encapsulant will be performed with the polyethylene containment installed for the window removal. Ventilation will be used within the containment areas as required for control of odors during application and curing of the encapsulant.

5.2.2 Encapsulation

The encapsulation of building materials will be conducted through the application of two coats of a liquid encapsulant to interior surfaces. Interior surfaces shall be encapsulated using ECI Fibertech F–50 penetrating primer followed by ECI Fibertech F–51 topcoat. Product technical information is provided in Appendix E. The encapsulant shall be applied to the following materials:

- From building materials formerly in direct contact with the removed window caulking (interior and exterior) to those.
- CMU walls from the removed interior caulked joints to the first 90 degree angle in the walls (i.e., the entire interior side of the exterior wall adjacent to a window);
- CMU walls above the upper horizontal caulked joint to the structural ceiling (i.e., the entire interior side of the exterior wall above a window including CMU block above and below the drop ceiling);
- In locations with fixed objects mounted on the wall, coating to be applied CMU block on both sides of the object (In locations with drop ceilings, the ceiling tiles are to be removed and the liquid encapsulant is to be applied to CMU block above the ceiling line).

5.2.3 Verification Sampling

Following application of the liquid encapsulant, verification wipe samples will be collected from the coated CMU block at a frequency of 1 sample per every 4 windows (or from 25% of the areas) for a total of 19 samples. Results from the wipe samples collected will be used to establish baseline data for long term monitoring described in Section 8. Results from wipe samples collected from encapsulated surfaces adjacent to the windows will be compared to the encapsulation standard as follows:

- ≥ 1 ug/100cm^2 – Additional coat of liquid encapsulant to be applied, verification sample re-collected at an off-set location; and
- < 1 ug/100cm^2 – No further action, aside from long term monitoring

Following completion of remedial activities, indoor air samples will be collected from the same four locations as collected during the initial characterization sampling (Rooms 334, 335, 208, and 110). Air samples will be collected in accordance with USEPA Compendium Method TO-10A *"Determination of Pesticides and Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)"* and submitted for laboratory analysis of PCB homologs. Analytical results from the indoor air samples will be compared to the initial air sampling results and EPA's September 2009 public health levels for PCBs in school indoor air for ages 19 plus and adults to evaluate the need for long term indoor air monitoring as part of the MMP.

.

6. EXTERIOR BUILDING MATERIALS

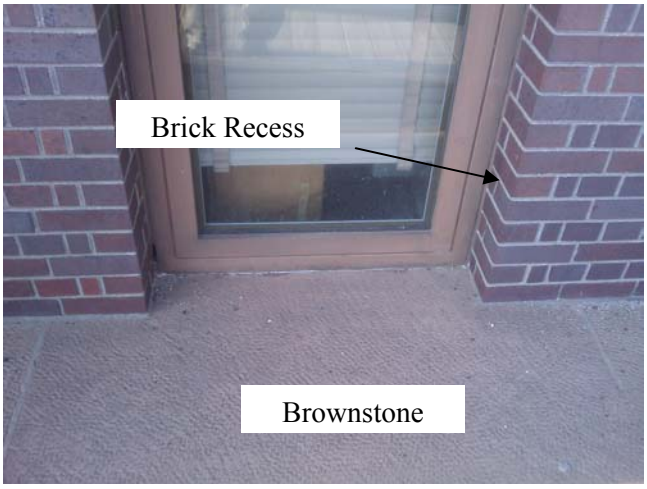
This section presents the characterization data associated with exterior building materials surrounding each of the three types of windows followed by the proposed remediation and verification process.

6.1 CHARACTERIZATION

Exterior building materials adjacent to windows consist of brick, brownstone, concrete, plaster, and terrazzo tile. A summary of each of the materials and the characterization data collected from each is as follows:

6.1.1 Brick

Brick materials are located adjacent to all Type A and Type B windows (total of 71 windows). Samples of brick were collected from the face of brick materials perpendicular to the building face within the window recess. Samples were collected from five locations (approximately 7% of the windows) at 0.5, 1, and 3 inches from the caulked joints. A total of seven brick samples were collected for characterization purposes. A summary of the analytical results is as follows:



Type A Window Configuration

- 0.5 inches: Three samples were collected of brick materials at a distance of 0.5 inches from the caulked joint. Analytical results indicated that the concentration of PCBs were < 1 ppm in all of the samples collected (0.47, 0.73, and 0.86 ppm);
- 1.0 inch: One sample was collected of brick materials at a distance of 1 inch from the caulked joint. Analytical results indicated that the concentration of PCBs was 0.13 ppm;
- 3 inches: Three samples were collected of brick materials at a distance of 3 inches from the caulked joint. Analytical results indicated that the concentration of PCBs were non-detect (< 0.095 ppm) or less than 1 ppm (0.15 and 0.34 ppm).

6.1.2 Brownstone Sills

Brownstone sills are located above and below each of the Type A windows and extend approximately 12 inches from the window frames. Samples of brownstone were collected from one location at distances of one, three, and four inches from the lower horizontal caulked joint. Analytical results indicated that PCBs were present at concentrations of 6.0, 1.2, and 1.1 ppm, respectively.

6.1.3 Plaster Ceiling

Plaster ceiling materials are located above the two storefront Type B windows on the second and third floors of the north building elevation. Two samples of plaster ceiling materials were collected from materials adjacent to the second floor window. Analytical results indicated that the concentrations of PCBs were 0.81 ppm at a distance of 3.5 inches from the caulked joint and 0.32 ppm at a distance of 9.5 inches from the caulked joint.

6.1.4 Concrete Sills

Concrete sills are located surrounding the five Type C windows on the eastern elevation of the basement window. The sills are approximately 12 inches in width. One sample of the concrete was collected at a distance of 11 inches from the caulked joint and submitted for PCB analysis. Analytical results indicated that PCBs were present at a concentration 0.53 ppm at a distance of 11 inches from the caulked joint.

Type C Window

6.1.5 Terrazzo Floor

Two samples of terrazzo flooring were collected from the flooring outside of Rooms 201 and 203. Analytical results indicated that PCBs were present at a concentration of 1.1 ppm at a distance of 0.5 inches from the joint and a concentration of 0.3 ppm at a distance of three inches from the caulked joint.

6.2 ADDITIONAL SAMPLING

Prior to application of the liquid sealant as described below, additional samples will be collected to determine the extent of liquid sealant application to outside building materials. Samples will be collected as follows:

- Brick – Samples to be collected at a distance of < 0.5 inches to determine the concentration of PCBs in materials immediately adjacent to the former caulked joint. Samples are to be collected from the 71 Type A and B windows at a frequency of 1 sample per 7 windows for a total of 10 samples. At each selected window, the sample location along the joint will be randomly selected using a random number generator based on the total linear footage of the caulked joints. Including the initial 3 samples collected, a total of 13 samples will be collected for a final sample frequency of approximately 1 sample per 5 windows;
- Brownstone Sills – Samples are to be collected at a distance of < 0.5 inches from the caulked joints to determine the concentration of PCBs in materials immediately adjacent to the former caulked joints and from materials at a distance of 6 inches from the caulked joint. Samples are to be collected from brownstone below the 69 Type A windows at a frequency of 1 sample per 7 windows (or approximately one sample set per 25 l.f. of caulked joint) for a total of 10 sample sets for a total of 20 samples (samples are not to be collected from the brownstone materials above the window due to the lower potential for upward migration). At each selected window, the sample location along the joint will be randomly selected using a random number generator based on the total linear footage of the caulked joints. Samples will be collected as follows:
    - < 0.5 inches from the joint - A total of 10 samples will be collected from materials < 0.5 inches from the caulked joint (to be used to determine the extent of required sealant in low occupancy areas); and
    - 6 inches from the joint - A total of 10 samples will be collected from materials < 0.5 inches from the caulked joint (to be used to determine the extent of required sealant in high occupancy areas).
- Plaster Ceiling – Samples are to be collected at a distance of < 0.5 inches to determine the concentration of PCBs in materials immediately adjacent to the former caulked joint. The sample locations will be randomly selected along the joint at locations adjacent to both the second and third floor Type B windows for a sample frequency of 1 sample per window (or 1 sample per 17 l.f. of caulked joint);
- Concrete Sills – Samples are to be collected at the edge of the window recess on the lower sill (a distance 11 inches from the caulked joint) to determine the concentration of PCBs in materials at the edge of the sill.

One sample is to be collected a randomly selected window from a randomly selected location along the lower horizontal joint. Including the initial samples collected, a total of 2 samples will be collected for a final sample frequency of 1 sample per 55 l.f. of caulked joint; and

- Terrazzo Floor – Samples are to be collected at a distance of < 0.5 inches to determine the concentration of PCBs in materials immediately adjacent to the former caulked joint. Samples are to be collected from materials at randomly selected locations along the joint adjacent to both the second and third floor Type B windows. Including the initial samples collected, a total of 3 samples will be collected for a final sample frequency of 1 sample per 11 l.f. of caulked joint).

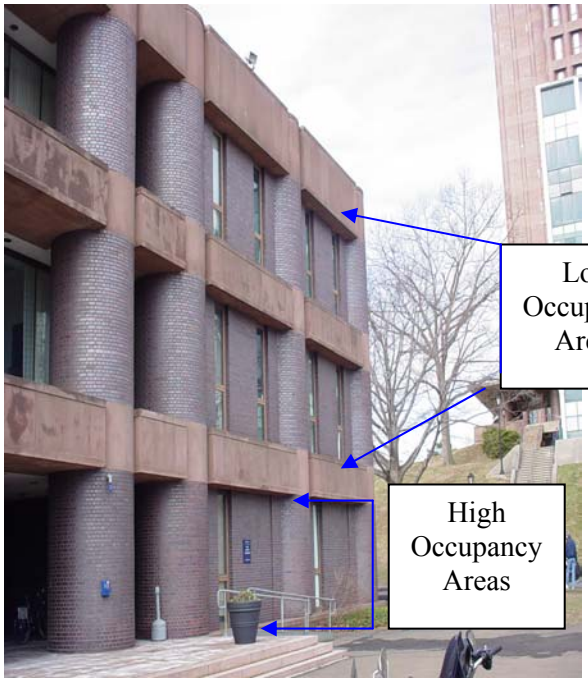
6.3 CLEANUP LEVELS

As discussed previously, given the nature of the building, exterior building materials containing PCBs at concentrations above the applicable clean up criteria will be managed in place through the application of a liquid sealant to prevent direct contact exposures and migration of the PCBs outside the existing limits of impacts. Based on the differing potential for direct contact exposures, both the high occupancy and low occupancy clean up criteria will be applied as follows:

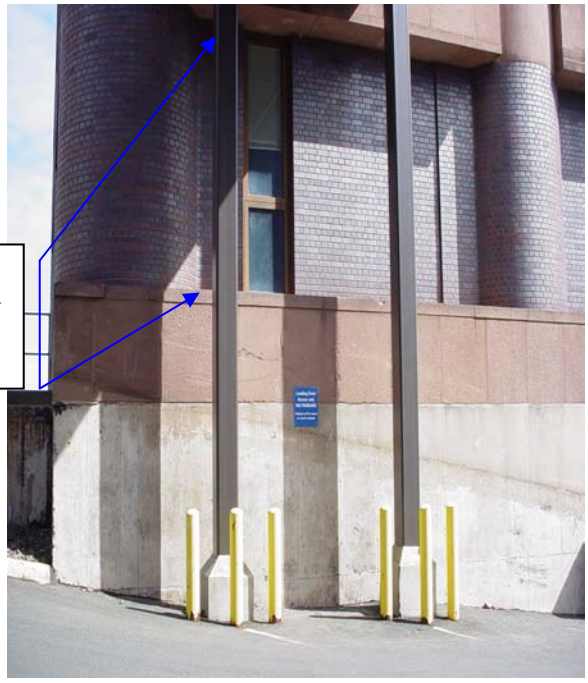
- High Occupancy Cleanup Criteria: The high occupancy cleanup criteria of ≤ 1 ppm total PCBs will be applied to all first floor building materials adjacent to Type A windows on the north building elevation and to concrete materials surrounding the Type C basement level windows on the east elevation. The cleanup criteria is applicable due to the location of the windows within ten feet of the ground surface along this elevation (first floor locations on the east, west, and south elevations are located at heights greater than 10 feet above the ground surface [south elevation] or along concrete structures which allow for access to the basement levels (east and west elevations); and

- Low Occupancy Cleanup Criteria: The low occupancy cleanup criteria of ≤ 25 ppm total PCBs will be applied to building materials adjacent to Type A windows on the first floor locations of the east elevation (total of 4 windows), and south elevation (total of 3 windows) and to all second and third floor building materials adjacent to Type A and Type B windows. There are no first floor windows on the west elevation. The application of the low occupancy criteria to these locations is based on their location and use which limits direct contact exposure to these materials given the limited to no access and that the selected replacement windows are inoperable.

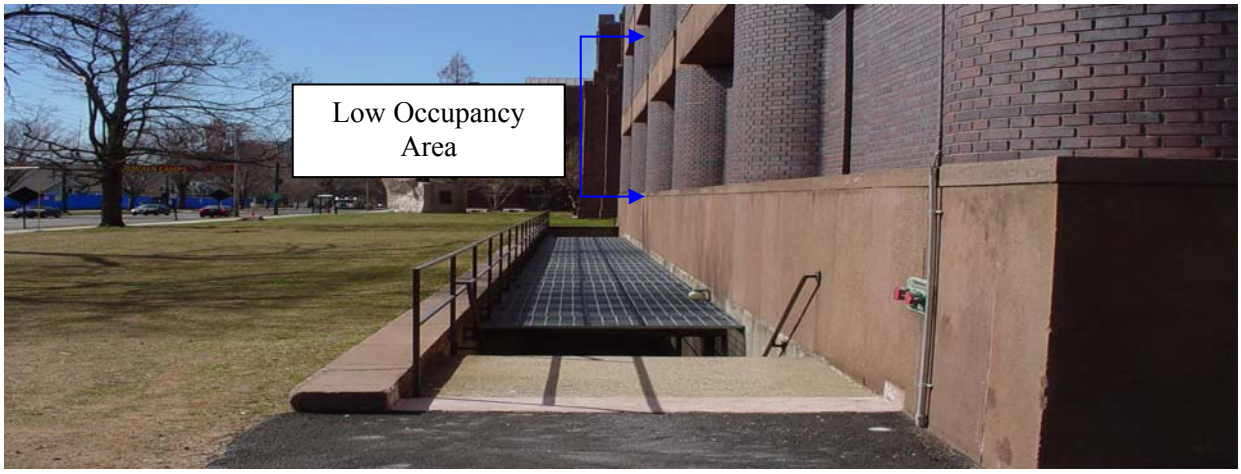
The photographs below provide examples of where the applicable criteria are to be applied:



North Building Elevation



Southwest Building Corner



East Building Elevation

6.4 REMEDIATION PLAN

The following sections provide details on site preparation and control activities, the remedial approach, and verification process for the adjacent materials. The in-place management of building materials will be conducted through the application of two coats of a liquid sealant (KlenzSeal II, or equivalent), as specified in the following sections. Information on this product is provided in Appendix E. This product was selected based on several product mock-ups installed by the design team to select a product that would not affect the architectural features of the building.

The extents of sealant application detailed below are subject to modification based on the results of the additional characterization sampling conducted as described in Section 6.2. If results of the characterization sampling indicate that PCBs are present at concentrations above the applicable cleanup levels, additional samples will be collected at the frequencies detailed above to delineate the extent of PCB impacts above the cleanup level and to establish the required extent of sealant.

6.4.1 Site Preparation

The application of the liquid sealant will be performed following removal of the PCB-containing caulking and windows and under the same containments and controls used for the window removals. Access to the work areas will remain restricted through the use of barrier markers and signage. Access to the work areas will be through aerial lift or staging.

6.4.2 Brick

Of the 71 Type A and B windows, 7 windows are located within the high occupancy area and 62 windows are located in the low occupancy designated areas. As described in the Interior Remediation Section, a liquid elastomeric sealant will be applied to the masonry substrate in former direct with the PCB containing caulking following caulking and window removal.

For areas away from the former direct contact surfaces, additional sampling will be conducted prior to sealing to develop a data set of 1 sample per 7 windows. These samples will be collected at distances < 0.5 inches from the former caulked joint (based on the initial characterization results).

For those windows identified within the low occupancy area, if the sample results are < 25 ppm, then no additional sealant will be applied to the brick surfaces. For those windows identified within the high occupancy area, regardless of the sample results, the liquid sealant (KlenzSeal, or equivelant) will be applied to the surface of the brick from the former direct contact surface along the face of the brick perpendicular to said surface to a point where the brick makes a right angle and starts to run parallel to the window (approximately 4 inches).

6.4.3 Brownstone

Of the 69 Type A windows, 7 windows are located within the high occupancy area and 69 windows are located in the low occupancy designated areas. As described in the Interior Remediation Section, a liquid elastomeric sealant will be applied to the masonry substrate in former direct with the PCB containing caulking following caulking and window removal.

For areas away from the former direct contact surfaces, additional sampling will be conducted prior to sealing to develop a data set of 1 sample per 7 windows. Two samples from each selected window will be collected at distances < 0.5 and 6 inches from the former caulked joint (based on the initial characterization results).

For those windows identified within the low occupancy area, if the sample results are < 25 ppm, then no additional sealant will be applied to the brownstone surfaces. For those windows identified within the high occupancy area, regardless of the sample results, the liquid sealant (KlenzSeal, or equivelant) will be applied from the building materials formerly in direct contact with the removed exterior window caulking across the entire upper horizontal face of the sill and the lower horizontal face of the header (approximately 12 inches);

6.4.4 Concrete Sills

The five Type C windows are located within the high occupancy area on the basement level of the east building elevation. As described in the Interior Remediation Section, a liquid elastomeric sealant will be applied to the masonry substrate in former direct with the PCB containing caulking following caulking and window removal.

For areas away from the former direct contact surfaces, additional sampling will be conducted prior to sealing to develop a data set of 1 sample per the 5 windows. This sample will be collected at a distance 11 inches from the former caulked joint (based on the initial characterization results).

Regardless of the sample results, the liquid sealant (KlenzSeal, or equivelant) will be applied from the building materials formerly in direct contact with the removed exterior window caulking across the concrete sill and recessed areas (approximately 12 inches).

6.4.5 Plaster Ceiling

The two storefront windows are located on within low occupancy areas on the second and third floors of the north building elevation. As described in the Interior Remediation Section, a liquid elastomeric sealant will be applied to the masonry substrate in former direct with the PCB containing caulking following caulking and window removal.

For areas away from the former direct contact surfaces, additional sampling will be conducted prior to sealing to develop a data set of 1 sample per window for a total of 2 samples. These samples will be collected at a distance < 0.5 inches from the former caulked joint (based on the initial characterization results).

Based on their location within the low occupancy area, if the sample results are < 25 ppm, then no additional sealant will be applied to the plaster ceiling surfaces.

6.4.6 Terrazzo Floor

The two storefront windows are located on within low occupancy areas on the second and third floors of the north building elevation. As described in the Interior Remediation Section, a liquid elastomeric sealant will be applied to the masonry substrate in former direct with the PCB containing caulking following caulking and window removal.

For areas away from the former direct contact surfaces, additional sampling will be conducted prior to sealing to develop a data set of 1 sample per window for a total of 2 samples. These samples will be collected at a distance < 0.5 inches from the former caulked joint (based on the initial characterization results).

Based on their location within the low occupancy area, if the sample results are < 25 ppm, then no additional sealant will be applied to the terrazzo floor surfaces.

6.5 VERIFICATION SAMPLING

Following application of the sealant, verification wipe samples will be collected from materials formerly in direct contact with the exterior caulked joint and from materials adjacent to the caulked joint. Details of the sampling program is presented in the following sections.

6.5.1 Direct Contact Sampling

Verification wipe samples of sealed building materials formerly in direct contact with the exterior caulked joint are to be collected to evaluate the effectiveness of the sealant. A summary of the verification sample frequency for each building material is provided below:

- Brick and Brownstone – Verification wipe samples collected from sealed brick and brownstone materials formerly in direct contact with the exterior caulking will be collected at a combined sample frequency of 1 sample per 10 windows for a total of 7 samples;
- Plaster Ceiling and Terrazzo Floor Tiles – One verification wipe sample will be collected from each of the sealed plaster ceiling and terrazzo floor tile materials formerly in direct contact with the exterior caulking adjacent to both storefront windows for a total of 2 samples; and
- Concrete Sills – Verification wipe samples will be collected from sealed concrete materials formerly in direct contact with the exterior caulking and from concrete on the lower concrete sill at one location.

6.5.2 Adjacent Materials Sampling

Verification wipe samples of sealed building materials adjacent to the former caulked joint are to be collected to verify sealant of PCBs. A summary of the verification sample frequency for each of the building materials is provided below:

- Brick – Brick materials adjacent to caulked joints are to be sealed on a total of 7 first floor windows on the north elevation. Verification wipe samples will be collected next to each of the 7 windows from brick within the window recess;
- Brownstone – Brownstone materials adjacent to caulked joints are to be sealed on a total of 7 first floor windows on the north elevation. Verification wipe samples will be collected next to each of the 7 windows from brownstone on the window sills; and
- Concrete Sills – Concrete materials adjacent to caulked joints are to be sealed on a total of 5 basement level windows on the east elevation. Verification wipe samples will be collected next to each of the 5 windows from concrete on the lower sill area.

Results from wipe samples collected from sealed surfaces adjacent to the windows will be compared to the standard as follows:

- $\geq$ 1 ug/100cm^2 – Additional coat of liquid sealant to be applied, verification sample re-collected at an off-set location; and
- < 1 ug/100cm^2 – No further action.

7. WASTE STORAGE AND DISPOSAL

Caulking containing ≥ 50 ppm PCBs, window frames and components (including glass), and backing materials and other materials in direct contact with the caulking and removed during window removal will be managed as a single waste stream and designated as ≥ 50 ppm PCB wastes. Polyethylene sheeting, PPE, and other disposable equipment and tools will be managed for disposal as < 50 ppm PCB wastes.

The following activities will be completed with regard to the proper storage and disposal of PCB wastes:

- Secure, lined, and covered waste containers (roll-off containers or equivalent), 55-gallon DOT-approved steel containers, or cubic yard boxes/totes will be staged for the collection of PCB wastes generated during the work activities in accordance with 40 CFR 761.65.
- Containers will be properly labeled and marked in accordance with 40 CFR 761.40.
- Upon completion of the work or when a container is considered full, PCB waste ≥ 50 ppm will be transported off-site under manifest, for disposal at a TSCA waste disposal facility (EQ Wayne Disposal located in Belleville, Michigan, or equivalent). PCB waste < 50 ppm will be transported to a facility permitted to accept such wastes (Waste Management's Turnkey Recycling and Environmental Enterprises (TREE) facility in Rochester, New Hampshire, or equivalent).
- At the end of their use on the project, non-disposable tools and equipment will be decontaminated in accordance with 40 CFR 761.79. Decontamination fluids generated during the work will be collected/contained and managed/disposed in accordance with 40 CFR 761.79.

Copies of the waste shipment records, including manifests and certificates of disposal, will be collected and provided as part of the final report to EPA.

8. CONCEPTUAL MONITORING AND MAINTENANCE PLAN

As described in this plan, remediation activities to be completed will require implementation of an alternate remedial approach under 40 CFR 761.61(c). This approach removes source materials and utilizes a physical barrier approach (liquid coating and/or window frames) to eliminate the direct contact exposure pathway and migration pathways of PCBs remaining on the building. Upon completion of the remedial actions, the impacted building materials would not be accessible to direct exposure or migration to surrounding building materials.

Following implementation of this approach, a monitoring and maintenance plan (MMP) will be developed and implemented. The main components of the plan are as follows:

- Visual inspections – visual inspections of the sealed surfaces will be conducted. The inspections will consist of an assessment of the following:
    - Signs of the underlying coating, or excessive pitting, peeling, or breakages in the coating;
    - Signs of weathering or disturbance of the replacement caulking (where applied); and
    - A general inspection of the joints.
- Surface Wipe Sampling – surface wipe samples will be collected from the sealed surfaces at a frequency developed based on the final areas to be encapsulated. Wipe samples will be collected following the standard wipe test procedures described in 40 CFR 761.123 and/or an alternate proposed method;
- Indoor Air Sampling – as indicated previously, following completion of remedial activities, indoor air samples will be collected from the same four locations as collected during the initial characterization sampling (Rooms 334, 335, 208, and 110). These results will be compared to the initial air sampling results and EPA's September 2009 public health levels for PCBs in school indoor air to evaluate the need for long term indoor air monitoring as part of the MMP;
- Corrective Actions – if results of the inspections indicate that damage has occurred to a component of the barrier system or if monitoring results exceed project-specific action levels (to be developed in the MMP), the needed repairs or corrective actions will be conducted;
- Maintenance Guidelines and Procedures – to prevent potential exposure to maintenance and facility personnel that may perform activities in the sealed areas, guidelines and procedures will be developed and implemented for any work being conducted in the respective areas. These guidelines and procedures will detail communications procedures, worker protection requirements, and worker training requirements to be conducted for maintenance or other activities in these areas; and
- Reporting – a report documenting the findings of the visual inspections and monitoring results will be prepared and submitted to EPA.

The details of the MMP will be developed following completion of the remedial activities described above. The results of the verification testing, baseline sampling, and inspections will be used to develop the details of the plan. The MMP will be provided to EPA under a separate submittal following the completion of the remedial activities.

9. SITE RESTORATION AND PROJECT SCHEDULE

The Kline Geology Laboratory window replacement project is currently scheduled to be conducted in September and October 2011. Following completion of the removal activities and verification that the cleanup levels have been met or the risk-based approach applied, the building surfaces will be restored in accordance with the overall project specifications. The site controls will be dismantled and all wastes will be transported off-site for proper disposal.

10. COMMUNICATION AND DOCUMENTATION

Prior to initiation and periodically during the work activities, project-related communications with building occupants and contractors will be undertaken on an as needed basis. These communications may include schedule and access updates regarding disruption to particular areas or significant project updates.

Following completion of the work activities, records and documents per 40 CFR Part 761 will be generated and maintained in the Yale University Environmental Health and Safety Department files. A final report documenting the completion of the work activities, verification analytical results, volumes of disposed materials, and waste disposal records will be prepared and submitted to EPA.

Table 2-1

Caulking and Sealant Analtyical Data Summary
Kline Geology Laboratory
Yale University
New Haven, Connecticut

Sealant Type	Material	Sample ID	Total PCBs (mg/kg)
Window Caulking	Interior Caulking (1,320 L.F.)	KGL208A-D	160,000
		KGL335-D	200,000
	Exterior Caulking (1,576 L.F.)	KGL 102 EXCK	270,000
		KGL 201 EXCK	220,000
Glazing Sealants	Interior Glazing (76 Windows)	KGL 208 IGL	4,300
		KGL 335 IGL	5,600
	Exterior Glazing (76 Windows)	KGL 204 EWL	3,800

Notes:
All samples extracted by Soxhlet Method 3540C and analyzed for PCBs by USEPA Method 8082.
Analytical results for Total PCBs reported as Aroclor 1254. No other Aroclor reported above the minimum laboratory reporting limits
l.f. = linear feet

Table 2-2

Building Materials Analytical Data Summary
Kline Geology Laboratory
Yale University
New Haven, Connecticut

Adjacent Materials	Sample Location and Description	Sample ID	Distance from Joint (inches)	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (mg/kg)
Interior Block Wall	Room 111 CMU Block Wall	KGL111-A	3	9.8 J	7.4	<1.0	17.2 J
		KGL111-B	6.5	4.0	3.0	<0.50	7.0
		KGL111-C	10	1.8	1.6	<0.20	3.4
		KGL 111-12 CMU	12	3.6	2.8	<0.48	6.4
		KGL 111-15 CMU	15	1.9 J	1.9	<0.45	3.8 J
		KGL 111-36 CMU	36	<0.10	0.29	<0.10	0.29
	Room 208 CMU Block Wall	KGL208A-A	3	5.9	5.0	<0.50	10.9
		KGL208A-B	6.5	3.4	2.0	<0.50	5.4
		KGL208A-C<0.50	10	0.62	0.55	<0.10	1.17
		208 A-E	12	<0.10	0.67	<0.10	0.67
		208A-36	36	<0.087	0.49	<0.087	0.49
	Room 335 CMU Block Wall	KGL335-A	3	5.9	4.7	<0.50	10.6
		KGL335-B	6.5	3.7	4.1	<0.48	7.8
		KGL335-C	10	0.86	1.2	<0.095	2.06
		KGL 335-12 CMU	12	2.5	2.3	<0.48	4.80
		KGL 335-15 CMU	15	3.4	2.9	<0.45	6.30
		KGI-335 18	18	<0.19	2.3 J	<0.19	2.3 J
		KGI-335 24	24	<0.095	1.2	<0.095	1.2
		KGI-335 36	36	<0.50	2.2	<0.50	2.2
	Room 122 CMU Block Wall	KGL-122 36	36	<0.095	0.37 J	<0.095	0.37 J
	Room 220 CMU Block Wall	KGL-220 36	36	<0.091	0.89	<0.091	0.89
	Room 217 CMU Block Wall	KGL-217 36	36	<0.10	0.92	<0.10	0.92

Table 2-2

Building Materials Analytical Data Summary
Kline Geology Laboratory
Yale University
New Haven, Connecticut

Adjacent Materials	Sample Location and Description	Sample ID	Distance from Joint (inches)	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs (mg/kg)
Exterior Brick	Brick Adjacent to Room 102 Window	KGLE102-LW	0.5 - 1.0	<0.095	0.86	<0.095	0.86
		KGLE102-A	1	<0.095	0.13	<0.095	0.13
		KGLE102-B	3	<0.095	<0.095	<0.095	<0.095
	Brick Adjacent to Room 115 Window	KGLE115-B	3	<0.095	0.34	<0.095	0.34
	Brick Adjacent to Room 201	KGL201AX	0.5 - 1.0	<0.091	0.73 J	<0.091	0.73 J
	Brick Adjacent to Room 203 Window	KGLE203-A	3	<0.10	0.15	<0.10	0.15
	Brick Adjacent to Room 204 Window	KGL 204	0.5 - 1.0	<0.10	0.47	<0.10	0.47
Exterior Brownstone	Brownstone sill below Room 101 Window	KGLE102-C	1	<1.0	6.0	<1.0	6.0
		KGL102-D	3	<0.19	1.2	<0.19	1.2
		KGL 102 EX	4	<0.10	1.1 J	<0.10	1.1 J
Exterior Plaster Ceiling	Plaster ceiling on exterior side of second floor storefront (Type B) windows	203-C-Plaster	3.5	<0.095	0.81	<0.095	0.81
		203-D-Plaster	9.5	<0.091	0.32	<0.091	0.32
Concrete Sill	Concrete sill adjacent to basement level windows	BSMT 11	11	<0.10	<0.10	0.53	0.53
Terrazzo Floor	Flooring outside Room 201	KGLE201-BX	0.5	<0.10	1.1	<0.10	1.1
	Flooring outside Room 203	KGLE203-B	3	<0.10	0.31	<0.10	0.3

Notes:
All samples extracted by Soxhlet Method 3540C and analyzed for PCBs by USEPA Method 8082.
Total PCBs reported as Aroclor 1248, 1254, and 1260. No other Aroclor reported at concentrations above the minimum laboratory reporting limit.
J - Analytical results qualified as estimated by external data validation. Specific details on the qualifications provided in Appendix B.

Table 2-3
Indoor Air Analytical Data Summary
Kline Geology Building
New Haven, Connecticut

Floor	Air Sample	PCB Concentration (ug/cartridge)	Flow Rate (L/Minute)	Duration (minutes)	PCB Concentration (ng/m3)
3	A344	0.39	4.2	244	380
3	A335	0.61	4.2	242	600
2	A208A	0.1	4.2	243	99
1	A110	0.6	4.8	247	510

Notes:
Air samples collected in accordance with USEPA Compendium Method TO-10A "Determination of Pesticides and Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)" and submitted for laboratory analysis of PCBs homologs.

Table 3-1
Remediation Plan Summary
KLINE GEOLOGY LABORATORY
YALE UNIVERSITY
NEW HAVEN, CT

Joint Description	Joint Description	Characterization Results Summary	Remedial Approach	Verification Sampling Strategy[1]	
				Sample Frequency	Number of Samples
Interior Window Joints (76 windows)	Caulking (1320 l.f.)	Two samples of interior window caulking. Reported PCB concentrations of 160,000 and 200,000 ppm	Caulking, backing material, glazing, window frames and components (including glass) removed for disposal as ≥ 50 ppm PCB Waste.	N/A	N/A
	Glazing Sealants	Two samples of interior glazing sealants. Reported PCB concentrations of 4,300 and 5,600 ppm.			
	CMU Block adjacent to interior window joints (Type A, B, and C - 76 windows)	Samples of CMU block collected from 6 locations at distances up to 36 inches from the caulked joints. PCBs were non-detect or < 1 ppm at a distance of 36 inches from the caulked joint in 5 of 6 locations. PCBs reported at a concentration of 2.2 ppm at a distance of 36 inches from the caulked joint in Room 335.	High Occupancy Clean Up Standard of 1 ppm to be applied to all interior locations. Following caulking and window removal, liquid encapsulant to be applied to materials previously in direct contact with the exterior PCB-containing caulking, across the sill, jambs, and header, and to CMU block to the first 90-degree angle. In locations with fixed objects mounted to the wall, coating to be applied to CMU block on both sides of the object. Following application of liquid encapsulant, verification wipe samples to be collected from locations formerly in direct contact with the caulking and from adjacent CMU block at 25% of the windows (at a frequency of 1 sample per 4 windows or 19 locations). Results of wipe samples from locations formerly in direct contact with caulking to be used to establish baseline data for long term monitoring program. Results of verification sampling conducted from adjacent CMU block to be compared to encapsulation standard as follows: • ≥ 1 µg/100cm2 - Additional liquid encapsulant to be applied, verification samples recollected; • < 1 µg/100cm2 - No Further Action	1 sample per 4 windows	19 wipe samples
Exterior Window Joints	Caulking (1,576 l.f.)	Two samples of exterior window caulking. Reported PCB concentrations of 220,000 and 270,000 ppm	Caulking, backing material, glazing, window frames and components (including glass) removed for disposal as ≥ 50 ppm PCB Waste.	N/A	N/A
	Glazing Sealants	One sample of exterior glazing sealants. Reported PCB concentration of 3,800 ppm.			
	Brick (994 l.f. of caulking on 71 Type A and B windows)	Brick adjacent to all Type A and Type B windows (total of 71 windows). Samples of brick collected from 5 locations at distances up to 3 inches from the caulked joint. Reported PCB concentrations < 1 ppm (0.47, 0.86, and 0.47 ppm) at a distance of 0.5 to 1 inch from the caulked joint and < 1 ppm (< 0.095, 0.15, and 0.34 ppm) at a distance of 3 inches from the caulked joint.	High Occupancy Clean Up Standard of 1 ppm to be applied to the north elevation first floor locations. Low Occupancy Clean Up Standard of 25 ppm to be applied to all other locations based on no direct contact pathway. Following caulking and window removal, liquid coating to be applied to materials as follows: • All Locations - brick materials formerly in direct contact with PCB-containing caulking; • North Elevation First Floor - brick materials formerly in direct contact with PCB-containing caulking and to the face of the brick materials perpendicular to the building face within the window recess (4 inches). Verification samples of brick to be collected at a distance of 0.5 inches from the caulked joint at 10% of the windows for a frequency of 1 sample per 7 windows (10 samples). Results of verification sampling to be compared to the clean up standard as follows: • ≥ Clean Up Standard - Additional verification sample to be collected at the outer extent of the window recess; • < Clean Up Standard - No Further Action Following application of liquid coating, verification wipe samples to be collected at 10% of the windows from locations formerly in direct contact with the caulking (7 samples) and from brick materials within each of the 7 north elevation first floor window recess (7 samples). Results of wipe samples from locations formerly in direct contact with caulking to be used to establish baseline data for long term monitoring program. Results of verification sampling to be compared to encapsulation standard as follows: • ≥ 1 µg/100cm2 - Additional liquid coating to be applied, verification samples recollected; • < 1 µg/100cm2 - No Further Action	Variable	10 bulk samples 14 wipe samples

Table 3-1
Remediation Plan Summary
KLINE GEOLOGY LABORATORY
YALE UNIVERSITY
NEW HAVEN, CT

Joint Description	Joint Description	Characterization Results Summary	Remedial Approach	Verification Sampling Strategy[1]	
				Sample Frequency	Number of Samples
Exterior Window Joints (continued) Exterior Window Joints (continued)	Brownstone(482 l.f. of caulking on 71 Type A and B windows)	Samples of brownstone collected from 1 location. Reported PCB concentration of 6.0 ppm at a distance of 1 inch, 1.2 ppm at a distance of 3 inches, and 1.1 ppm at a distance of 4 inches from the caulked joint.	High Occupancy Clean Up Standard of 1 ppm to be applied to the north elevation first floor locations. Low Occupancy Clean Up Standard of 25 ppm to be applied to all other locations based on no direct contact pathway. Following caulking and window removal, liquid coating to be applied to materials as follows: • All Locations - brownstone materials formerly in direct contact with PCB-containing caulking; • North Elevation First Floor - brownstone materials across the entire upper horizontal face of the window sill (12 inches). Verification samples of brownstone to be collected at a distance of < 0.5 and 6 inches from the caulked joint at 10% of the windows for a sample frequency of 1 sample set per 7 windows (20 samples). Results of verification sampling to be compared to the clean up standards as follows: • < Clean Up Standard - Additional verification sample collected at the end of the horizontal face of the brownstone; • ≤ Clean Up Standard - No Further Action Following application of liquid coating, verification wipe samples to be collected at 10% of the windows from locations formerly in direct contact with the caulking (7 samples) and from materials on the upper horizontal face of the brownstone sill below each of the 7 north elevation first floor windows (7 samples). Results of wipe samples from locations formerly in direct contact with caulking to be used to establish baseline data for long term monitoring program. Results of verification sampling to be compared to encapsulation standard as follows: • ≥ 1 µg/100cm2 - Additional liquid coating to be applied, verification samples recollected; • < 1 µg/100cm2 - No Further Action	Variable	10 bulk samples 14 wipe samples
	Plaster Ceiling (34 l.f. of caulking on 2 Type B windows)	Samples of plaster ceiling collected from one location. Reported PCB concentrations of 0.81 ppm at a distance of 3.5 inches and 0.32 ppm at a distance of 9.5 inches.	Low Occupancy Clean Up Standard of < 25 ppm to be applied to all locations due to no direct contact pathway. Following caulking and window removal, liquid encapsulant to be applied to materials formerly in direct contact with the PCB-containing caulking. Verification samples of plaster ceiling to be collected at a distance of 0.5 inches from the caulked joint at both of the windows (2 locations). Results of verification sampling to be compared to the low occupancy clean up level as follows: • ≥ 25 ppm - Additional verification sample collected at a to-be-determined distance from the caulked joint; • < 25 ppm - No Further Action Following application of liquid coating verification wipe samples to be collected from ceiling materials formerly in direct contact with the caulking and adjacent to both windows. Results of verification sampling from materials formerly in direct contact to be used to establish baseline monitoring data.	1 sample per window	2 bulk samples 1 wipe sample
	Concrete Sills (100 l.f. of caulking on 5 Type C windows)	Sample of concrete window sill collected from one location on the basement window. Reported PCB concentration of 0.53 ppm at a distance of 11 inches from the caulked joint (edge of window sill).	High Occupancy Clean Up Standard of 1 ppm to be applied to Type C windows due to location within the concrete structure on the east elevation. Following caulking and window removal, liquid coating to be applied to materials formerly in direct contact with the PCB-containing caulking and to concrete perpendicular to the building face within the window recess (approximately 11 inches). Verification samples of concrete to be collected at the edge of the window recess (a distance of 11 inches from the caulked joint) at one window (a frequency of 1 sample per 5 windows or 20%). Results of verification sampling to be compared to the high occupancy clean up level as follows: • > 1 ppm - Additional verification sample collected at the end of the concrete sill; • ≤ 1 ppm - No Further Action Following application of liquid coating, verification wipe samples to be collected at 20% of the windows (a frequency of 1 sample per 5 windows or 1 location) from materials formerly in direct contact with the caulking and from materials within the window recess. Results of verification samples collected from materials formerly in direct contact with caulking to be used to establish baseline monitoring data. Results of verification samples collected from concrete within the window recess to be compared to encapsulation standard as follows: • ≥ 1 µg/100cm^2 - Additional liquid encapsulant to be applied, verification samples recollected; • < 1 µg/100cm2 - No Further Action	1 sample per 5 windows	1 bulk sample 6 wipe samples

Table 3-1
Remediation Plan Summary
KLINE GEOLOGY LABORATORY
YALE UNIVERSITY
NEW HAVEN, CT

Joint Description	Joint Description	Characterization Results Summary	Remedial Approach	Verification Sampling Strategy[1]	
				Sample Frequency	Number of Samples
Exterior Window Joints (continued)	Terrazzo Floor (34 l.f. of caulking on 2 Type B windows)	Samples of terrazzo floor collected from one location on the second floor. Reported PCB concentration of 1.1 ppm at a distance of 0.5 inches from the caulked joint and 0.3 ppm at a distance of 3 inches from the caulked joint.	Low Occupancy Clean Up Standard of < 25 ppm to be applied to all locations due to no direct contact pathway. Following caulking and window removal, liquid encapsulant to be applied to materials formerly in direct contact with the PCB-containing caulking. Verification samples of terrazzo floor to be collected at a distance of 0.5 inches from the caulked joint at both of the windows (2 locations). Results of verification sampling to be compared to the low occupancy clean up level as follows: • ≥ 25 ppm - Additional verification sample collected at a to-be-determined distance from the caulked joint; • < 25 ppm - No Further Action Following application of liquid coating verification wipe samples to be collected from ceiling materials formerly in direct contact with the caulking and adjacent to both windows. Results of verification sampling from materials formerly in direct contact to be used to establish baseline monitoring data.	1 sample per window	2 bulk sample 1 wipe sample

Notes:
Type of windows as per Project Specification Drawings.
(1) Bulk verification samples to be collected prior to application of liquid encapsulant. Sampling frequency represents additional verification samples to be collected and does not include those already collected.

APPENDIX A: WRITTEN CERTIFICATION

WOODARD
&CURRAN

Certification

The undersigned owner of the property where the cleanup site is located and the party conducting the cleanup certify that all sampling plans, sampling collection procedures, sample preparation procedures, extraction procedures and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at the location indicated below and are available for EPA inspection, as set forth below.

Document Location

Yale EHS Office

135 College Street, Ste 100

New Haven, CT 06510

Property Owner and Party Conducting the Cleanup

Authorized Signature

Date August 3, 2011

John Bollier

Name of Authorized representative (print)

Yale University Associate Vice President for Facilities

Title

APPENDIX B: ANALYTICAL LABORATORY REPORTS AND DATA VALIDATION SUMMARY

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 4, 2011

Steven Murdzia
Yale University
135 College Street
New Haven, CT 06510

Project Location: KGL
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 11B0504

Enclosed are results of analyses for samples received by the laboratory on February 23, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Yale University
135 College Street
New Haven, CT 06510
ATTN: Steven Murdzia

REPORT DATE: 3/4/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11B0504

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: KGL

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL111-A	11B0504-01	Concrete		SW-846 8082	
KGL111-B	11B0504-02	Concrete		SW-846 8082	
KGL111-C	11B0504-03	Concrete		SW-846 8082	
KGL208A-A	11B0504-04	Concrete		SW-846 8082	
KGL208A-B	11B0504-05	Concrete		SW-846 8082	
KGL208A-C	11B0504-06	Concrete		SW-846 8082	
KGL208A-D	11B0504-07	Caulk		SW-846 8082	
KGL335-A	11B0504-08	Concrete		SW-846 8082	
KGL335-B	11B0504-09	Concrete		SW-846 8082	
KGL335-C	11B0504-10	Concrete		SW-846 8082	
KGL335-D	11B0504-11	Caulk		SW-846 8082	
KGLE102-A	11B0504-12	Concrete		SW-846 8082	
KGLE102-B	11B0504-13	Concrete		SW-846 8082	
KGLE102-C	11B0504-14	Concrete		SW-846 8082	
KGLE102-D	11B0504-15	Concrete		SW-846 8082	
KGLE203-A	11B0504-16	Concrete		SW-846 8082	
KGLE203-B	11B0504-17	Concrete		SW-846 8082	
KGLE115-B	11B0504-18	Concrete		SW-846 8082	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082

Qualifications:

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl, Decachlorobiphenyl [2C], Tetrachloro-m-xylene, Tetrachloro-m-xylene [2C]

11B0504-07[KGL208A-D], 11B0504-11[KGL335-D]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL111-A
Sampled: 2/17/2011 00:00

Sample ID: 11B0504-01

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/23/11	2/25/11 15:47	JMB
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/23/11	2/25/11 15:47	JMB
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/23/11	2/25/11 15:47	JMB
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/23/11	2/25/11 15:47	JMB
Aroclor-1248 [2]	9.8	1.0	mg/Kg	10		SW-846 8082	2/23/11	2/25/11 15:47	JMB
Aroclor-1254 [2]	7.4	1.0	mg/Kg	10		SW-846 8082	2/23/11	2/25/11 15:47	JMB
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/23/11	2/25/11 15:47	JMB
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/23/11	2/25/11 15:47	JMB
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/23/11	2/25/11 15:47	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	138	30-150		2/25/11 15:47
Decachlorobiphenyl [2]	142	30-150		2/25/11 15:47
Tetrachloro-m-xylene [1]	119	30-150		2/25/11 15:47
Tetrachloro-m-xylene [2]	128	30-150		2/25/11 15:47

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL111-B
Sampled: 2/17/2011 00:00

Sample ID: 11B0504-02

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:00	JMB
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:00	JMB
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:00	JMB
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:00	JMB
Aroclor-1248 [1]	4.0	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:00	JMB
Aroclor-1254 [2]	3.0	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:00	JMB
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:00	JMB
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:00	JMB
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:00	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	114	30-150		2/25/11 16:00
Decachlorobiphenyl [2]	118	30-150		2/25/11 16:00
Tetrachloro-m-xylene [1]	101	30-150		2/25/11 16:00
Tetrachloro-m-xylene [2]	111	30-150		2/25/11 16:00

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL111-C | Sampled: 2/17/2011 00:00

Sample ID: 11B0504-03

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	mg/Kg	2		SW-846 8082	2/23/11	2/25/11 16:14	JMB
Aroclor-1221 [1]	ND	0.20	mg/Kg	2		SW-846 8082	2/23/11	2/25/11 16:14	JMB
Aroclor-1232 [1]	ND	0.20	mg/Kg	2		SW-846 8082	2/23/11	2/25/11 16:14	JMB
Aroclor-1242 [1]	ND	0.20	mg/Kg	2		SW-846 8082	2/23/11	2/25/11 16:14	JMB
Aroclor-1248 [1]	1.8	0.20	mg/Kg	2		SW-846 8082	2/23/11	2/25/11 16:14	JMB
Aroclor-1254 [2]	1.6	0.20	mg/Kg	2		SW-846 8082	2/23/11	2/25/11 16:14	JMB
Aroclor-1260 [1]	ND	0.20	mg/Kg	2		SW-846 8082	2/23/11	2/25/11 16:14	JMB
Aroclor-1262 [1]	ND	0.20	mg/Kg	2		SW-846 8082	2/23/11	2/25/11 16:14	JMB
Aroclor-1268 [1]	ND	0.20	mg/Kg	2		SW-846 8082	2/23/11	2/25/11 16:14	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		2/25/11 16:14
Decachlorobiphenyl [2]	99.9	30-150		2/25/11 16:14
Tetrachloro-m-xylene [1]	92.4	30-150		2/25/11 16:14
Tetrachloro-m-xylene [2]	97.6	30-150		2/25/11 16:14

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL208A-A
Sampled: 2/17/2011 00:00

Sample ID: 11B0504-04

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:28	JMB
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:28	JMB
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:28	JMB
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:28	JMB
Aroclor-1248 [1]	5.9	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:28	JMB
Aroclor-1254 [2]	5.0	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:28	JMB
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:28	JMB
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:28	JMB
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:28	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	118	30-150		2/25/11 16:28
Decachlorobiphenyl [2]	121	30-150		2/25/11 16:28
Tetrachloro-m-xylene [1]	103	30-150		2/25/11 16:28
Tetrachloro-m-xylene [2]	114	30-150		2/25/11 16:28

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL208A-B | Sampled: 2/17/2011 00:00

Sample ID: 11B0504-05

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:41	JMB
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:41	JMB
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:41	JMB
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:41	JMB
Aroclor-1248 [1]	3.4	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:41	JMB
Aroclor-1254 [2]	2.0	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:41	JMB
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:41	JMB
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:41	JMB
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:41	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	97.7	30-150		2/25/11 16:41
Decachlorobiphenyl [2]	102	30-150		2/25/11 16:41
Tetrachloro-m-xylene [1]	94.6	30-150		2/25/11 16:41
Tetrachloro-m-xylene [2]	105	30-150		2/25/11 16:41

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL208A-C
Sampled: 2/17/2011 00:00

Sample ID: 11B0504-06

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:05	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:05	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:05	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:05	JMB
Aroclor-1248 [1]	0.62	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:05	JMB
Aroclor-1254 [2]	0.55	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:05	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:05	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:05	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:05	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.6	30-150		2/24/11 21:05
Decachlorobiphenyl [2]	95.6	30-150		2/24/11 21:05
Tetrachloro-m-xylene [1]	93.5	30-150		2/24/11 21:05
Tetrachloro-m-xylene [2]	98.1	30-150		2/24/11 21:05

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL208A-D
Sampled: 2/17/2011 00:00

Sample ID: 11B0504-07

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9200	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 6:50	JMB
Aroclor-1221 [1]	ND	9200	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 6:50	JMB
Aroclor-1232 [1]	ND	9200	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 6:50	JMB
Aroclor-1242 [1]	ND	9200	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 6:50	JMB
Aroclor-1248 [1]	ND	9200	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 6:50	JMB
Aroclor-1254 [2]	160000	9200	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 6:50	JMB
Aroclor-1260 [1]	ND	9200	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 6:50	JMB
Aroclor-1262 [1]	ND	9200	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 6:50	JMB
Aroclor-1268 [1]	ND	9200	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 6:50	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	2/26/11 6:50
Decachlorobiphenyl [2]	*	30-150	S-01	2/26/11 6:50
Tetrachloro-m-xylene [1]	*	30-150	S-01	2/26/11 6:50
Tetrachloro-m-xylene [2]	*	30-150	S-01	2/26/11 6:50

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504
Date Received: 2/23/2011
Field Sample #: KGL335-A
Sampled: 2/17/2011 00:00
Sample ID: 11B0504-08
Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:55	JMB
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:55	JMB
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:55	JMB
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:55	JMB
Aroclor-1248 [1]	5.9	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:55	JMB
Aroclor-1254 [2]	4.7	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:55	JMB
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:55	JMB
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:55	JMB
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 16:55	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	118	30-150		2/25/11 16:55
Decachlorobiphenyl [2]	123	30-150		2/25/11 16:55
Tetrachloro-m-xylene [1]	109	30-150		2/25/11 16:55
Tetrachloro-m-xylene [2]	121	30-150		2/25/11 16:55

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL335-B
Sampled: 2/17/2011 00:00

Sample ID: 11B0504-09

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.48	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 17:08	JMB
Aroclor-1221 [1]	ND	0.48	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 17:08	JMB
Aroclor-1232 [1]	ND	0.48	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 17:08	JMB
Aroclor-1242 [1]	ND	0.48	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 17:08	JMB
Aroclor-1248 [1]	3.7	0.48	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 17:08	JMB
Aroclor-1254 [2]	4.1	0.48	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 17:08	JMB
Aroclor-1260 [1]	ND	0.48	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 17:08	JMB
Aroclor-1262 [1]	ND	0.48	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 17:08	JMB
Aroclor-1268 [1]	ND	0.48	mg/Kg	5		SW-846 8082	2/23/11	2/25/11 17:08	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	102	30-150		2/25/11 17:08
Decachlorobiphenyl [2]	106	30-150		2/25/11 17:08
Tetrachloro-m-xylene [1]	95.6	30-150		2/25/11 17:08
Tetrachloro-m-xylene [2]	106	30-150		2/25/11 17:08

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL335-C | Sampled: 2/17/2011 00:00

Sample ID: 11B0504-10

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:45	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:45	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:45	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:45	JMB
Aroclor-1248 [1]	0.86	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:45	JMB
Aroclor-1254 [2]	1.2	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:45	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:45	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:45	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:45	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	90.4	30-150		2/24/11 21:45
Decachlorobiphenyl [2]	90.7	30-150		2/24/11 21:45
Tetrachloro-m-xylene [1]	90.3	30-150		2/24/11 21:45
Tetrachloro-m-xylene [2]	95.1	30-150		2/24/11 21:45

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGL335-D
Sampled: 2/17/2011 00:00

Sample ID: 11B0504-11

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9500	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 7:06	JMB
Aroclor-1221 [1]	ND	9500	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 7:06	JMB
Aroclor-1232 [1]	ND	9500	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 7:06	JMB
Aroclor-1242 [1]	ND	9500	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 7:06	JMB
Aroclor-1248 [1]	ND	9500	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 7:06	JMB
Aroclor-1254 [2]	200000	9500	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 7:06	JMB
Aroclor-1260 [1]	ND	9500	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 7:06	JMB
Aroclor-1262 [1]	ND	9500	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 7:06	JMB
Aroclor-1268 [1]	ND	9500	mg/Kg	50000		SW-846 8082	2/23/11	2/26/11 7:06	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	2/26/11 7:06
Decachlorobiphenyl [2]	*	30-150	S-01	2/26/11 7:06
Tetrachloro-m-xylene [1]	*	30-150	S-01	2/26/11 7:06
Tetrachloro-m-xylene [2]	*	30-150	S-01	2/26/11 7:06

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGLE102-A
Sampled: 2/23/2011 00:00

Sample ID: 11B0504-12

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:59	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:59	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:59	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:59	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:59	JMB
Aroclor-1254 [1]	0.13	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:59	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:59	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:59	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 21:59	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	90.0	30-150		2/24/11 21:59
Decachlorobiphenyl [2]	92.4	30-150		2/24/11 21:59
Tetrachloro-m-xylene [1]	83.7	30-150		2/24/11 21:59
Tetrachloro-m-xylene [2]	88.7	30-150		2/24/11 21:59

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGLE102-B
Sampled: 2/23/2011 00:00

Sample ID: 11B0504-13

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:12	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:12	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:12	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:12	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:12	JMB
Aroclor-1254 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:12	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:12	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:12	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:12	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	90.3	30-150		2/24/11 22:12
Decachlorobiphenyl [2]	93.7	30-150		2/24/11 22:12
Tetrachloro-m-xylene [1]	92.7	30-150		2/24/11 22:12
Tetrachloro-m-xylene [2]	98.1	30-150		2/24/11 22:12

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGLE102-C
Sampled: 2/23/2011 00:00

Sample ID: 11B0504-14

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/24/11	2/26/11 6:06	JMB
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/24/11	2/26/11 6:06	JMB
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/24/11	2/26/11 6:06	JMB
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/24/11	2/26/11 6:06	JMB
Aroclor-1248 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/24/11	2/26/11 6:06	JMB
Aroclor-1254 [2]	6.0	1.0	mg/Kg	10		SW-846 8082	2/24/11	2/26/11 6:06	JMB
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/24/11	2/26/11 6:06	JMB
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/24/11	2/26/11 6:06	JMB
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082	2/24/11	2/26/11 6:06	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	111	30-150		2/26/11 6:06
Decachlorobiphenyl [2]	119	30-150		2/26/11 6:06
Tetrachloro-m-xylene [1]	113	30-150		2/26/11 6:06
Tetrachloro-m-xylene [2]	126	30-150		2/26/11 6:06

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGLE102-D
Sampled: 2/23/2011 00:00

Sample ID: 11B0504-15

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.19	mg/Kg	2		SW-846 8082	2/24/11	2/26/11 6:20	JMB
Aroclor-1221 [1]	ND	0.19	mg/Kg	2		SW-846 8082	2/24/11	2/26/11 6:20	JMB
Aroclor-1232 [1]	ND	0.19	mg/Kg	2		SW-846 8082	2/24/11	2/26/11 6:20	JMB
Aroclor-1242 [1]	ND	0.19	mg/Kg	2		SW-846 8082	2/24/11	2/26/11 6:20	JMB
Aroclor-1248 [1]	ND	0.19	mg/Kg	2		SW-846 8082	2/24/11	2/26/11 6:20	JMB
Aroclor-1254 [1]	1.2	0.19	mg/Kg	2		SW-846 8082	2/24/11	2/26/11 6:20	JMB
Aroclor-1260 [1]	ND	0.19	mg/Kg	2		SW-846 8082	2/24/11	2/26/11 6:20	JMB
Aroclor-1262 [1]	ND	0.19	mg/Kg	2		SW-846 8082	2/24/11	2/26/11 6:20	JMB
Aroclor-1268 [1]	ND	0.19	mg/Kg	2		SW-846 8082	2/24/11	2/26/11 6:20	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	108	30-150		2/26/11 6:20
Decachlorobiphenyl [2]	109	30-150		2/26/11 6:20
Tetrachloro-m-xylene [1]	111	30-150		2/26/11 6:20
Tetrachloro-m-xylene [2]	114	30-150		2/26/11 6:20

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGLE203-A
Sampled: 2/23/2011 00:00

Sample ID: 11B0504-16

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/24/11	2/25/11 19:11	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/24/11	2/25/11 19:11	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/24/11	2/25/11 19:11	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/24/11	2/25/11 19:11	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/24/11	2/25/11 19:11	JMB
Aroclor-1254 [1]	0.15	0.10	mg/Kg	1		SW-846 8082	2/24/11	2/25/11 19:11	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/24/11	2/25/11 19:11	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/24/11	2/25/11 19:11	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/24/11	2/25/11 19:11	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	110	30-150		2/25/11 19:11
Decachlorobiphenyl [2]	109	30-150		2/25/11 19:11
Tetrachloro-m-xylene [1]	110	30-150		2/25/11 19:11
Tetrachloro-m-xylene [2]	109	30-150		2/25/11 19:11

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGLE203-B
Sampled: 2/23/2011 00:00

Sample ID: 11B0504-17

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:26	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:26	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:26	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:26	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:26	JMB
Aroclor-1254 [2]	0.31	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:26	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:26	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:26	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	2/23/11	2/24/11 22:26	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	99.3	30-150		2/24/11 22:26
Decachlorobiphenyl [2]	102	30-150		2/24/11 22:26
Tetrachloro-m-xylene [1]	88.8	30-150		2/24/11 22:26
Tetrachloro-m-xylene [2]	95.8	30-150		2/24/11 22:26

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11B0504

Date Received: 2/23/2011

Field Sample #: KGLE115-B | Sampled: 2/23/2011 00:00

Sample ID: 11B0504-18

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/25/11 15:33	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/25/11 15:33	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/25/11 15:33	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/25/11 15:33	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/25/11 15:33	JMB
Aroclor-1254 [1]	0.34	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/25/11 15:33	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/25/11 15:33	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/25/11 15:33	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	2/23/11	2/25/11 15:33	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	112	30-150		2/25/11 15:33
Decachlorobiphenyl [2]	113	30-150		2/25/11 15:33
Tetrachloro-m-xylene [1]	110	30-150		2/25/11 15:33
Tetrachloro-m-xylene [2]	114	30-150		2/25/11 15:33

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11B0504-07 [KGL208A-D]	B026479	0.541	10.0	02/23/11
11B0504-11 [KGL335-D]	B026479	0.527	10.0	02/23/11

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11B0504-01 [KGL111-A]	B026467	2.00	10.0	02/23/11
11B0504-02 [KGL111-B]	B026467	2.00	10.0	02/23/11
11B0504-03 [KGL111-C]	B026467	2.00	10.0	02/23/11
11B0504-04 [KGL208A-A]	B026467	2.00	10.0	02/23/11
11B0504-05 [KGL208A-B]	B026467	2.00	10.0	02/23/11
11B0504-06 [KGL208A-C]	B026467	2.00	10.0	02/23/11
11B0504-08 [KGL335-A]	B026467	2.00	10.0	02/23/11
11B0504-09 [KGL335-B]	B026467	2.10	10.0	02/23/11
11B0504-10 [KGL335-C]	B026467	2.10	10.0	02/23/11
11B0504-12 [KGLE102-A]	B026467	2.10	10.0	02/23/11
11B0504-13 [KGLE102-B]	B026467	2.10	10.0	02/23/11
11B0504-17 [KGLE203-B]	B026467	2.00	10.0	02/23/11
11B0504-18 [KGLE115-B]	B026467	2.10	10.0	02/23/11

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11B0504-14RE1 [KGLE102-C]	B026515	2.00	10.0	02/24/11
11B0504-15RE1 [KGLE102-D]	B026515	2.10	10.0	02/24/11
11B0504-16RE1 [KGLE203-A]	B026515	2.00	10.0	02/24/11

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B026467 - SW-846 3540C										
Blank (B026467-BLK1)				Prepared: 02/23/11 Analyzed: 02/24/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*1.03*		mg/Kg	1.00		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.02*		mg/Kg	1.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.859*		mg/Kg	1.00		85.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.891*		mg/Kg	1.00		89.1	30-150			
LCS (B026467-BS1)				Prepared: 02/23/11 Analyzed: 02/24/11						
Aroclor-1016	0.27	0.10	mg/Kg	0.250		109	40-140			
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		114	40-140			
Aroclor-1260	0.27	0.10	mg/Kg	0.250		106	40-140			
Aroclor-1260 [2C]	0.27	0.10	mg/Kg	0.250		109	40-140			
Surrogate: Decachlorobiphenyl	*0.928*		mg/Kg	1.00		92.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.918*		mg/Kg	1.00		91.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.808*		mg/Kg	1.00		80.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.839*		mg/Kg	1.00		83.9	30-150			
LCS Dup (B026467-BSD1)				Prepared: 02/23/11 Analyzed: 02/24/11						
Aroclor-1016	0.23	0.10	mg/Kg	0.250		90.0	40-140	19.3	30	
Aroclor-1016 [2C]	0.23	0.10	mg/Kg	0.250		93.7	40-140	19.9	30	
Aroclor-1260	0.22	0.10	mg/Kg	0.250		86.4	40-140	20.7	30	
Aroclor-1260 [2C]	0.22	0.10	mg/Kg	0.250		89.7	40-140	19.0	30	
Surrogate: Decachlorobiphenyl	*0.712*		mg/Kg	1.00		71.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.717*		mg/Kg	1.00		71.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.653*		mg/Kg	1.00		65.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.683*		mg/Kg	1.00		68.3	30-150			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B026479 - SW-846 3540C										
Blank (B026479-BLK1)				Prepared: 02/23/11 Analyzed: 02/24/11						
Aroclor-1016	ND	0.20	mg/Kg							
Aroclor-1016 [2C]	ND	0.20	mg/Kg							
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							
Aroclor-1260 [2C]	ND	0.20	mg/Kg							
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	*3.21*		mg/Kg	4.00		80.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.85*		mg/Kg	4.00		71.3	30-150			
Surrogate: Tetrachloro-m-xylene	*3.26*		mg/Kg	4.00		81.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.55*		mg/Kg	4.00		88.7	30-150			
LCS (B026479-BS1)				Prepared: 02/23/11 Analyzed: 02/24/11						
Aroclor-1016	1.2	0.20	mg/Kg	1.00		122	40-140			
Aroclor-1016 [2C]	1.3	0.20	mg/Kg	1.00		128	40-140			
Aroclor-1260	0.98	0.20	mg/Kg	1.00		97.6	40-140			
Aroclor-1260 [2C]	0.95	0.20	mg/Kg	1.00		95.0	40-140			
Surrogate: Decachlorobiphenyl	*3.55*		mg/Kg	4.00		88.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.08*		mg/Kg	4.00		77.0	30-150			
Surrogate: Tetrachloro-m-xylene	*3.47*		mg/Kg	4.00		86.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.78*		mg/Kg	4.00		94.5	30-150			
LCS Dup (B026479-BSD1)				Prepared: 02/23/11 Analyzed: 02/24/11						
Aroclor-1016	1.0	0.20	mg/Kg	1.00		103	40-140	16.9	30	
Aroclor-1016 [2C]	1.1	0.20	mg/Kg	1.00		106	40-140	18.5	30	
Aroclor-1260	0.92	0.20	mg/Kg	1.00		91.7	40-140	6.14	30	
Aroclor-1260 [2C]	0.90	0.20	mg/Kg	1.00		89.8	40-140	5.64	30	
Surrogate: Decachlorobiphenyl	*3.39*		mg/Kg	4.00		84.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.93*		mg/Kg	4.00		73.4	30-150			
Surrogate: Tetrachloro-m-xylene	*3.26*		mg/Kg	4.00		81.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.55*		mg/Kg	4.00		88.8	30-150			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B026515 - SW-846 3540C										
Blank (B026515-BLK1)				Prepared: 02/24/11 Analyzed: 02/25/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*1.03*		mg/Kg	1.00		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.01*		mg/Kg	1.00		101	30-150			
Surrogate: Tetrachloro-m-xylene	*0.922*		mg/Kg	1.00		92.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.938*		mg/Kg	1.00		93.8	30-150			
LCS (B026515-BS1)				Prepared: 02/24/11 Analyzed: 02/25/11						
Aroclor-1016	0.30	0.10	mg/Kg	0.250		119	40-140			
Aroclor-1016 [2C]	0.31	0.10	mg/Kg	0.250		125	40-140			
Aroclor-1260	0.29	0.10	mg/Kg	0.250		116	40-140			
Aroclor-1260 [2C]	0.30	0.10	mg/Kg	0.250		121	40-140			
Surrogate: Decachlorobiphenyl	*0.980*		mg/Kg	1.00		98.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.943*		mg/Kg	1.00		94.3	30-150			
Surrogate: Tetrachloro-m-xylene	*1.02*		mg/Kg	1.00		102	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.05*		mg/Kg	1.00		105	30-150			
LCS Dup (B026515-BSD1)				Prepared: 02/24/11 Analyzed: 02/25/11						
Aroclor-1016	0.28	0.10	mg/Kg	0.250		113	40-140	5.51	30	
Aroclor-1016 [2C]	0.30	0.10	mg/Kg	0.250		118	40-140	5.57	30	
Aroclor-1260	0.27	0.10	mg/Kg	0.250		109	40-140	6.83	30	
Aroclor-1260 [2C]	0.31	0.10	mg/Kg	0.250		125	40-140	3.10	30	
Surrogate: Decachlorobiphenyl	*0.929*		mg/Kg	1.00		92.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.912*		mg/Kg	1.00		91.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.862*		mg/Kg	1.00		86.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.885*		mg/Kg	1.00		88.5	30-150			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B026515 - SW-846 3540C										
Matrix Spike (B026515-MS1)		**Source: 11B0504-16RE1**		Prepared: 02/24/11 Analyzed: 02/25/11						
Aroclor-1016	0.28	0.10	mg/Kg	0.250	0.0	113	40-140			
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250	0.0	114	40-140			
Aroclor-1260	0.29	0.10	mg/Kg	0.250	0.0	116	40-140			
Aroclor-1260 [2C]	0.28	0.10	mg/Kg	0.250	0.0	111	40-140			
Surrogate: Decachlorobiphenyl	*0.969*		mg/Kg	1.00		96.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.997*		mg/Kg	1.00		99.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.908*		mg/Kg	1.00		90.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.937*		mg/Kg	1.00		93.7	30-150			
Matrix Spike Dup (B026515-MSD1)		**Source: 11B0504-16RE1**		Prepared: 02/24/11 Analyzed: 02/25/11						
Aroclor-1016	0.30	0.10	mg/Kg	0.250	0.0	120	40-140	6.21	50	
Aroclor-1016 [2C]	0.31	0.10	mg/Kg	0.250	0.0	125	40-140	8.83	50	
Aroclor-1260	0.28	0.10	mg/Kg	0.250	0.0	114	40-140	1.84	50	
Aroclor-1260 [2C]	0.28	0.10	mg/Kg	0.250	0.0	114	40-140	2.45	50	
Surrogate: Decachlorobiphenyl	*0.862*		mg/Kg	1.00		86.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.870*		mg/Kg	1.00		87.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.870*		mg/Kg	1.00		87.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.900*		mg/Kg	1.00		90.0	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082 in Product/Solid	
Aroclor-1016	CT,NH,NY
Aroclor-1016 [2C]	CT,NH,NY
Aroclor-1221	CT,NH,NY
Aroclor-1221 [2C]	CT,NH,NY
Aroclor-1232	CT,NH,NY
Aroclor-1232 [2C]	CT,NH,NY
Aroclor-1242	CT,NH,NY
Aroclor-1242 [2C]	CT,NH,NY
Aroclor-1248	CT,NH,NY
Aroclor-1248 [2C]	CT,NH,NY
Aroclor-1254	CT,NH,NY
Aroclor-1254 [2C]	CT,NH,NY
Aroclor-1260	CT,NH,NY
Aroclor-1260 [2C]	CT,NH,NY

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2011
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2011
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

11B0504

Company Name: YALE UNIVERSITY
Address: 135 COLLEGE ST, STE 100
NEW HAVEN, CT 06510
Attention: STEVE MURDZIA
Project Location: KGL
Sampled By: S. MURDZIA

Telephone: 203 737-4453
Project #
Client PO#

DATA DELIVERY (check all that apply)
O FAX ☒ EMAIL ☒ WEBSITE
Fax #
Email: steven.murdzia@yale.edu
Format: ☒ PDF O EXCEL O GIS
O OTHER
O "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
O yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB BY 8082	3540C SOXHLET EXTRACTION	# of Containers	** Preservation	***Container Code
-01	KGL111-A	—	2/17/11	✓			G	X				
-02	KGL111-B	—						X				
-03	KGL 111-C	—						X				
-04	KGL 208A-A	—						X				
-05	KGL 208A-B	—						X				
-06	KGL 208A C	—						X				
-07	KGL 208 A-D CAULK	—				H		X				
-08	KGL 335-A	—						X				
-09	KGL 335-B	—						X				
-10	KGL 335-C	—						X				

Dissolved Metals
O Field Filtered
O Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:
ALL SAMPLES WITH EXCEPTION OF CAULK ARE MASONRY (BRICK/BROWNSTONE/TERRAZO ETC)
DUE FRIDAY 3/4/4PM

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 2/23/11 1710
Received by: (signature) Paula Blakeborough	Date/Time: 2-23-11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☒ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
O MCP Form Required
O RCP Form Required
O MA State DW Form Required PWSID # _____

NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

11B0504

Company Name: YALE EHS
Address:
Attention:
Project Location: KGL
Sampled By:

Project Proposal Provided? (for billing purposes)
O yes _____ proposal date

Telephone: 203 737-4453
Project #
Client PO#

DATA DELIVERY (check all that apply)
O FAX O EMAIL O WEBSITE
Fax #
Email: steven.murdzia@yale.edu
Format: ☒ PDF O EXCEL O GIS
O OTHER
O "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB EPA 8082	3540C SOXHLET EXTRACTION	# of Containers	** Preservation	***Container Code
-11	KGL 335-D CAULK	—	2/17/11	✓		H	G	X				
-12	KGLE 102-A	—	2/23/11					X				
-13	KGLE 102 B	—						X				
-14	KGLE 102 C	—						X				
-15	KGLE 102 D	—						X				
-16	KGLE 203A	—						X				
-17	KGLE 203 B	—						X				
-18	KGLE 115 B	—						X				

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
O Field Filtered
O Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V=vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A= air
S = soil/solid
SL = sludge
O = other

Relinquished by: (signature)	Date/Time: 2/23/11 1710	
Received by: (signature) Paula Blakeman	Date/Time: 2/23/11	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Turnaround ††
☐ 7-Day
☒ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
O MCP Form Required
O RCP Form Required
O MA State DW Form Required PWSID # _____

NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

www.contestlabs.com

con-test ANALYTICAL LABORATORY

39 Spruce St.
East Longmeadow, MA.
01028
P: 413-525-2332
F: 413-525-6405

Sample Receipt Checklist

CLIENT NAME: Yale University RECEIVED BY: PEB DATE: 2/23/11

1) Was the chain(s) of custody relinquished and signed? (Yes) No

2) Does the chain agree with the samples? (Yes) No

If not, explain:

3) Are all the samples in good condition? (Yes) No

If not, explain:

4) How were the samples received:

On Ice ☐ Direct from Sampling ☐ Ambient ☑ In Cooler(s) ☐

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun _____

5) Are there Dissolved samples for the lab to filter? Yes (No)

Who was notified _____ Date _____ Time _____

6) Are there any samples "On Hold"? Yes (No) Stored where: _____

7) Are there any RUSH or SHORT HOLDING TIME samples? Yes (No)

Who was notified _____ Date _____ Time _____

8) Location where samples are stored: 14

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature:

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below		SOC Kit	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Non-ConTest Container	
Flashpoint bottle		(Other) Small Glass Jar	18
Encore		PM 2.5 / PM 10	
Perchlorate Kit		PUF Cartridge	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No N/A _____

Do all samples have the proper Base pH: Yes No N/A _____

11B0504-01 KGL111-A

Analyte	Results		%RPD
Aroclor-1248 [2C]	9.8	7.08485	32.2
Aroclor-1254 [2C]	7.4	6.96675	6.03
Surrogates			
Decachlorobiphenyl	1.38	1.41635	2.6
Tetrachloro-m-xylene	1.19	1.2796	7.26

11B0504-02 KGL111-B

Analyte	Results		%RPD
Aroclor-1248	4.0	3.63295	9.62
Aroclor-1254 [2C]	3.0	2.895375	3.55
Surrogates			
Decachlorobiphenyl	1.14	1.1769	3.19
Tetrachloro-m-xylene	1.01	1.109475	9.39

11B0504-03 KGL111-C

Analyte	Results		%RPD
Aroclor-1254 [2C]	1.6	1.52756	4.63
Aroclor-1248	1.8	1.69405	6.06
Surrogates			
Decachlorobiphenyl	1.00	0.99909	0.091
Tetrachloro-m-xylene	0.924	0.97612	5.49

11B0504-04 KGL208A-A

Analyte	Results		%RPD
Aroclor-1248	5.9	5.20325	12.6
Aroclor-1254 [2C]	5.0	4.62525	7.79
Surrogates			
Decachlorobiphenyl [2C]	1.21	1.17985	2.52
Tetrachloro-m-xylene [2C]	1.14	1.032725	9.87

11B0504-05 KGL208A-B

Analyte	Results		%RPD
Aroclor-1248	3.4	2.821575	18.6
Aroclor-1254 [2C]	2.0	1.94465	2.81
Surrogates			
Decachlorobiphenyl	0.977	1.01815	4.13
Tetrachloro-m-xylene	0.946	1.053375	10.7

11B0504-06 KGL208A-C

Analyte	Results		%RPD
Aroclor-1248	0.62	0.597275	3.73
Aroclor-1254 [2C]	0.55	0.53537	2.7
Surrogates			
Tetrachloro-m-xylene	0.935	0.981485	4.85
Decachlorobiphenyl	0.956	0.95635	0.0366

11B0504-07 KGL208A-D

Analyte	Results		%RPD
Aroclor-1254 [2C]	160000	159842.9	0.0982

11B0504-08 KGL335-A

Analyte	Results		%RPD
Aroclor-1248	5.9	5.02905	15.9
Aroclor-1254 [2C]	4.7	4.45715	5.3

Surrogates			
Decachlorobiphenyl	1.18	1.229975	4.15
Tetrachloro-m-xylene	1.09	1.2113	10.5

11B0504-09 KGL335-B

Analyte	Results		%RPD
Aroclor-1248	3.7	3.690357	0.261
Aroclor-1254 [2C]	4.1	3.852786	6.22
Surrogates			
Decachlorobiphenyl	0.974	1.011405	3.77
Tetrachloro-m-xylene	0.911	1.011262	10.4

11B0504-10 KGL335-C

Analyte	Results		%RPD
Aroclor-1248	0.86	0.8443382	1.84
Aroclor-1254 [2C]	1.2	1.115629	7.29
Surrogates			
Tetrachloro-m-xylene	0.860	0.9059381	5.2
Decachlorobiphenyl	0.861	0.8639381	0.341

11B0504-11 KGL335-D

Analyte	Results		%RPD
Aroclor-1254 [2C]	200000	197016.1	1.5

11B0504-12 KGLE102-A

Analyte	Results		%RPD
Aroclor-1254	0.13	0.1306857	0.526
Aroclor-1248	0.077	7.388572E-02	4.13
Surrogates			
Decachlorobiphenyl	0.857	0.8800381	2.65
Tetrachloro-m-xylene	0.797	0.8444048	5.78

11B0504-13 KGLE102-B

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	0.860	0.8922763	3.68
Tetrachloro-m-xylene	0.883	0.9345429	5.67

11B0504-14RE1 KGLE102-C

Analyte	Results		%RPD
Aroclor-1254 [2C]	6.0	5.78145	3.71
Surrogates			
Decachlorobiphenyl	1.11	1.1851	6.54
Tetrachloro-m-xylene	1.13	1.2569	10.6

11B0504-15RE1 KGLE102-D

Analyte	Results		%RPD
Aroclor-1254	1.2	1.112629	7.56
Surrogates			
Decachlorobiphenyl	1.03	1.038486	0.821
Tetrachloro-m-xylene	1.06	1.089076	2.71

11B0504-16RE1 KGLE203-A

Analyte	Results		%RPD
Aroclor-1254	0.15	0.14638	2.44
Surrogates			
Decachlorobiphenyl	1.10	1.086295	1.25
Tetrachloro-m-xylene	1.10	1.09154	0.772

11B0504-17 KGLE203-B

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.31	0.295605	4.75
Surrogates			
Decachlorobiphenyl	0.993	1.019965	2.68

Tetrachloro-m-xylene	0.888	0.957565	7.54

11B0504-18 KGLE115-B

Analyte		Results	%RPD
Aroclor-1254	0.34	0.3007095	12.3
Surrogates			
Decachlorobiphenyl	1.06	1.0775	1.64
Tetrachloro-m-xylene	1.05	1.081591	2.96

B026467-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.03	1.022985	0.683
Tetrachloro-m-xylene	0.859	0.890585	3.61

B026467-BS1 LCS

Analyte		Results	%RPD
Aroclor-1260	0.27	0.271335	0.493
Aroclor-1016	0.27	0.286065	5.78
Surrogates			
Decachlorobiphenyl	0.928	0.91799	1.08
Tetrachloro-m-xylene	0.808	0.83936	3.81

B026467-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1260	0.22	0.22428	1.93
Aroclor-1016	0.23	0.234335	1.87
Surrogates			
Decachlorobiphenyl	0.712	0.7171	0.714
Tetrachloro-m-xylene	0.653	0.68288	4.47

B026467-MS1 Matrix Spike

Analyte		Results	%RPD
Aroclor-1016	0.41	0.4899905	17.8
Aroclor-1260	0.23	0.2514238	8.9
Surrogates			
Decachlorobiphenyl	0.772	0.7816715	1.24
Tetrachloro-m-xylene	0.761	0.789062	3.62

B026467-MSD1 Matrix Spike Dup

Analyte		Results	%RPD
Aroclor-1016	0.46	0.5626857	20.1
Aroclor-1260	0.27	0.2665286	1.29
Surrogates			
Decachlorobiphenyl	0.845	0.8391763	0.692
Tetrachloro-m-xylene	0.810	0.8387048	3.48

B026479-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	3.21	2.85384	11.7
Tetrachloro-m-xylene	3.26	3.54602	8.4

B026479-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	1.2	1.27822	6.31
Aroclor-1260	0.98	0.95014	3.09
Surrogates			
Decachlorobiphenyl	3.55	3.0804	14.2
Tetrachloro-m-xylene	3.47	3.78192	8.6

B026479-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	1.0	1.06134	5.95

Aroclor-1260	0.92	0.89798	2.42
Surrogates			
Decachlorobiphenyl	3.39	2.93498	14.4
Tetrachloro-m-xylene	3.26	3.55212	8.58

B026515-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.03	1.00749	2.21
Tetrachloro-m-xylene	0.922	0.93817	1.74

B026515-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	0.29	0.30208	4.08
Aroclor-1016	0.30	0.312585	4.11
Surrogates			
Decachlorobiphenyl	0.980	0.94315	3.83
Tetrachloro-m-xylene	1.02	1.048135	2.72

B026515-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.28	0.295645	5.44
Aroclor-1260	0.27	0.311585	14.3
Surrogates			
Decachlorobiphenyl	0.929	0.912065	1.84
Tetrachloro-m-xylene	0.862	0.884795	2.61

B026515-MS1 Matrix Spike

Analyte	Results		%RPD
Aroclor-1016	0.28	0.28525	1.86
Aroclor-1260	0.29	0.27794	4.25
Surrogates			
Decachlorobiphenyl	0.969	0.996695	2.82
Tetrachloro-m-xylene	0.908	0.93655	3.1

B026515-MSD1 Matrix Spike Dup

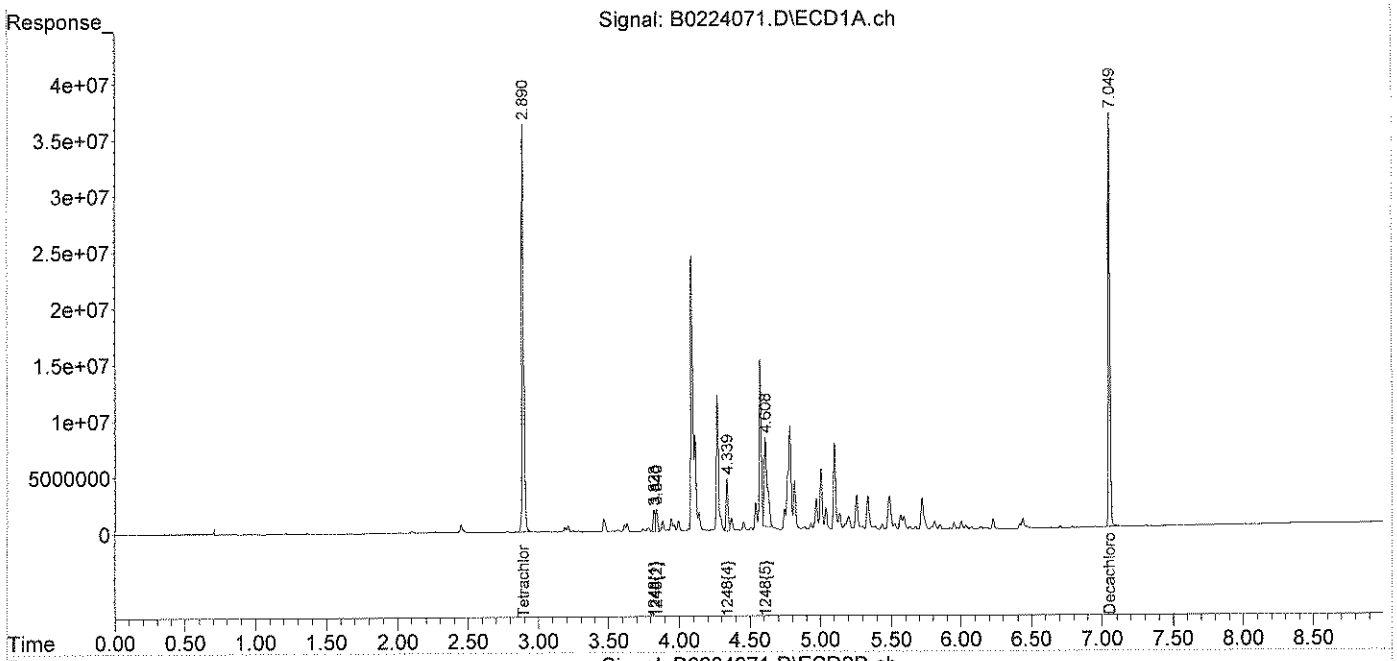
Analyte	Results		%RPD
Aroclor-1016	0.30	0.311615	3.8
Aroclor-1260	0.28	0.284835	1.71
Surrogates			
Tetrachloro-m-xylene	0.870	0.90019	3.41
Decachlorobiphenyl	0.862	0.870275	0.955

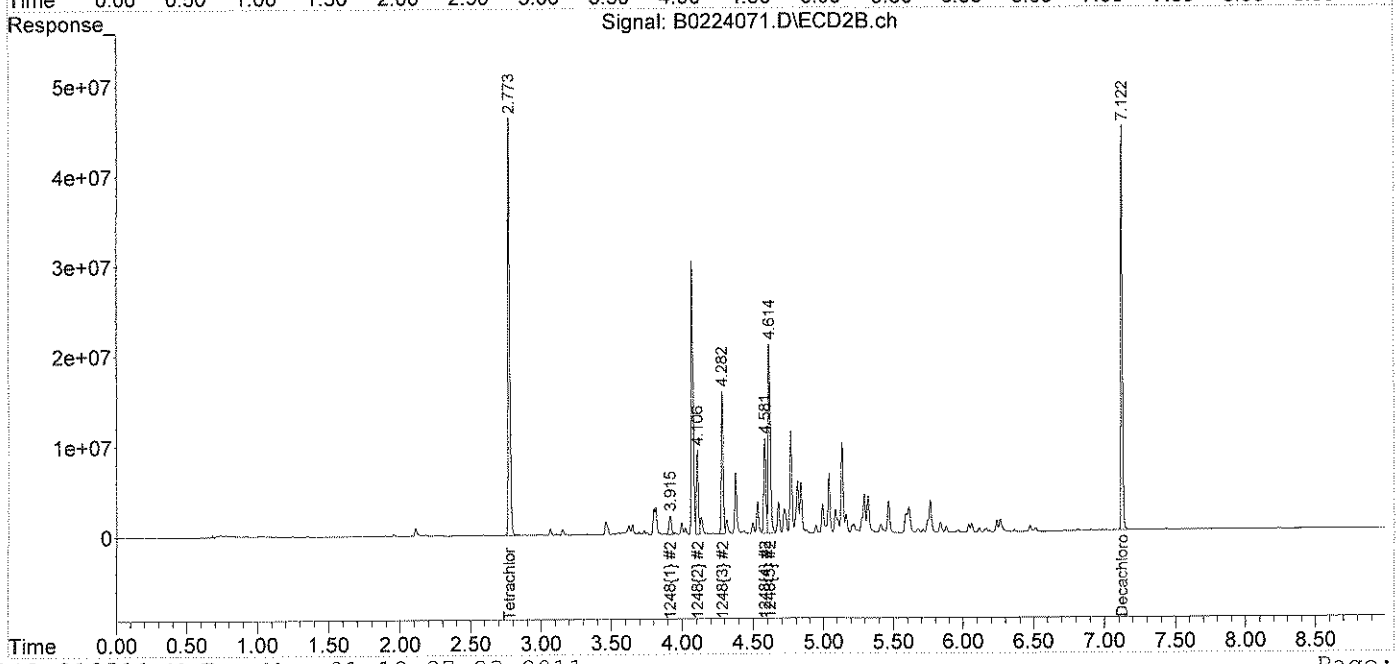
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224071.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 3:47 pm
Operator : JMB
Sample : 11B0504-01@10X Inst : ECD 2A
Misc :
ALS Vial : 71 Sample Multiplier: 1

Integration File signal 1: 1248-Front.E
Integration File signal 2: 1248-Back.E
Quant Time: Feb 27 09:33:46 2011
Quant Method : C:\msdchem\1\METHODS\2-1248-012511.M
Quant Title : 1248 01/14/11
QLast Update : Mon Jan 24 12:46:48 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



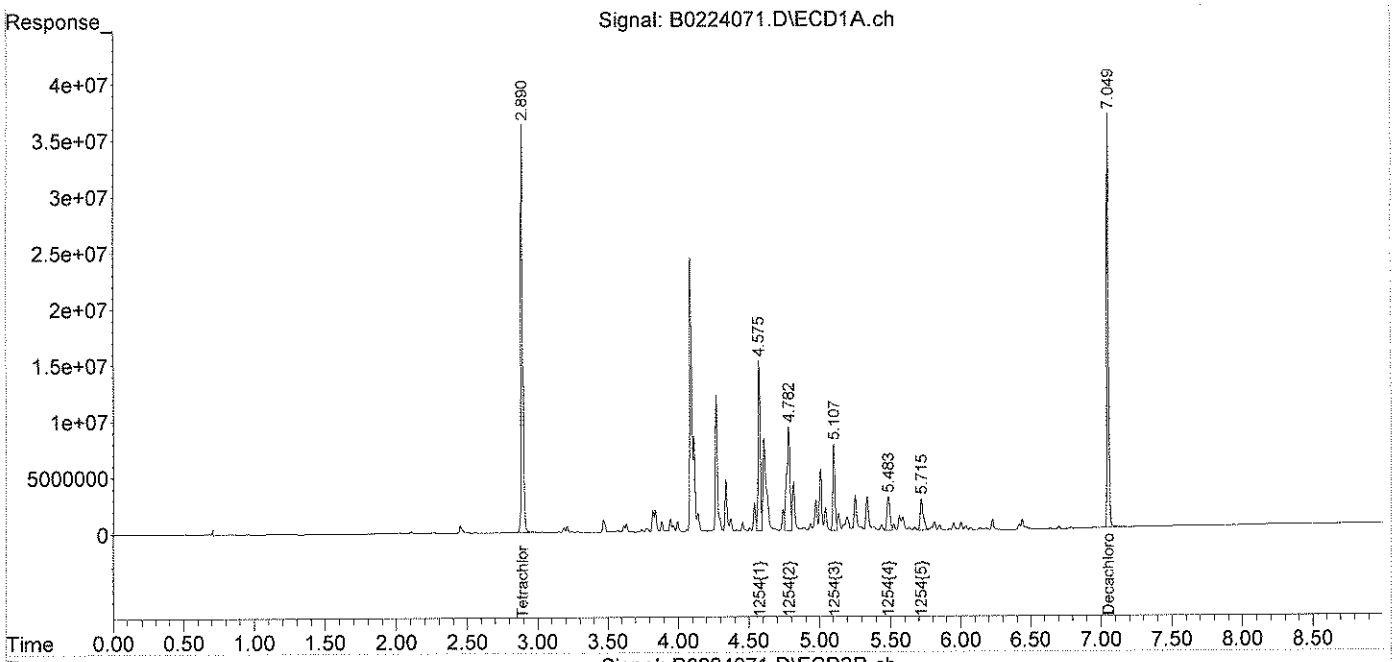


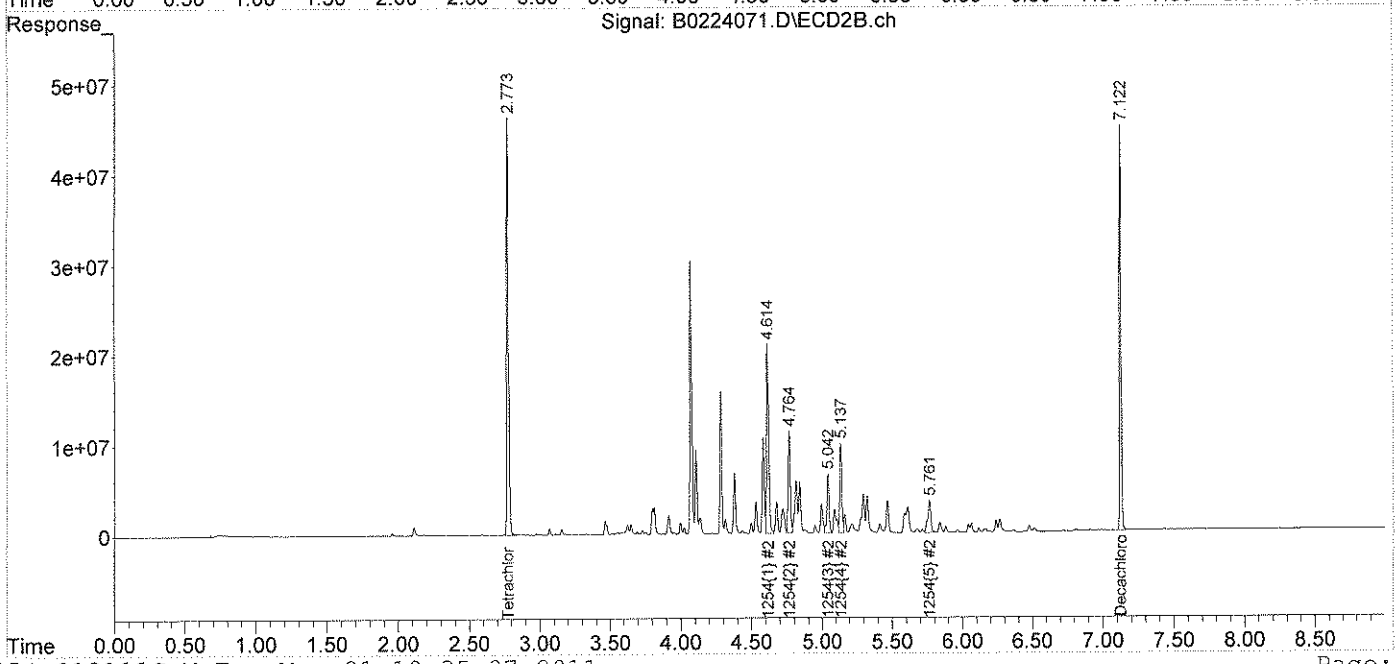
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224071.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 3:47 pm
Operator : JMB
Sample : 11B0504-01@10X Inst : ECD 2A
Misc :
ALS Vial : 71 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 27 09:31:41 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



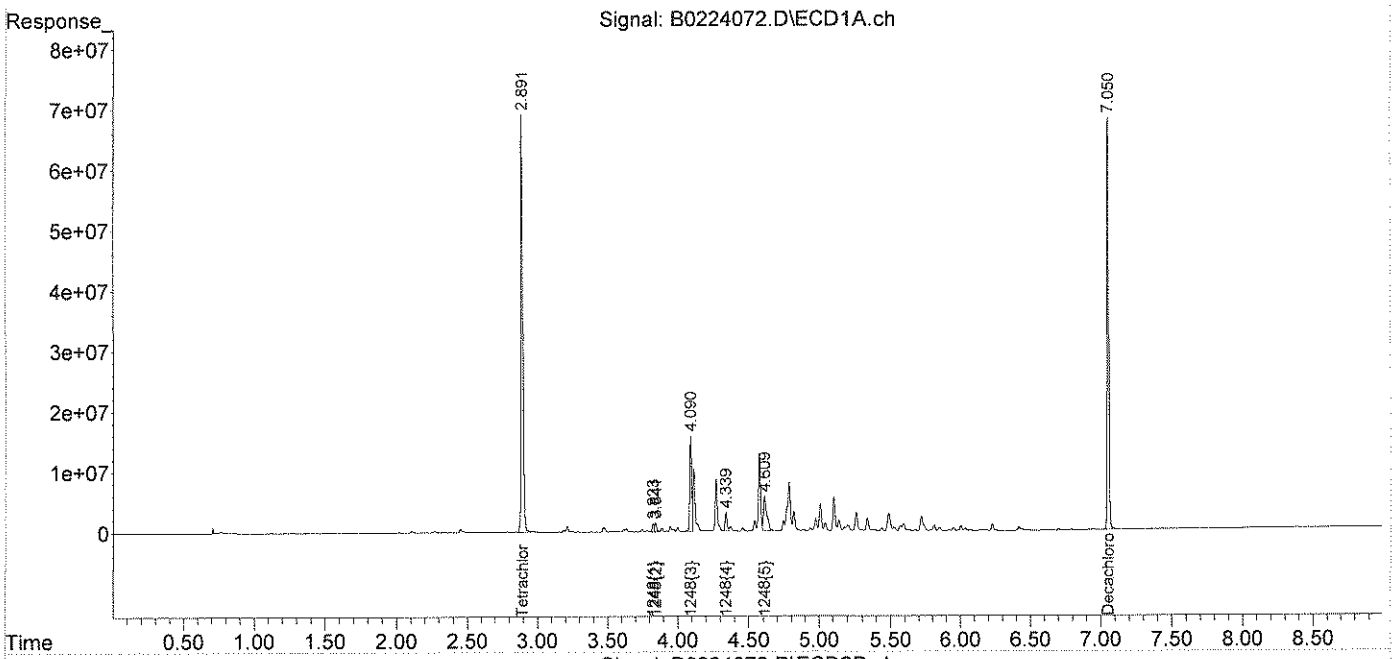


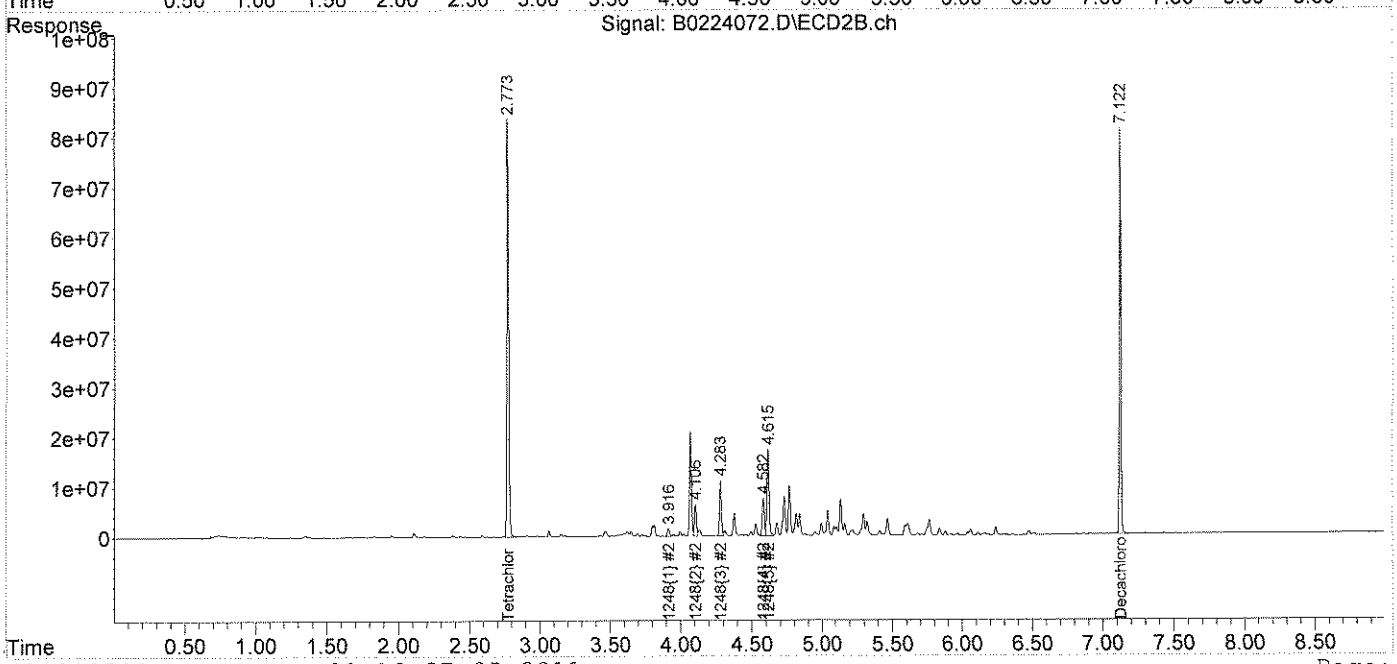
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224072.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:00 pm
Operator : JMB
Sample : 11B0504-02@5X Inst : ECD 2A
Misc :
ALS Vial : 72 Sample Multiplier: 1

Integration File signal 1: 1248-Front.E
Integration File signal 2: 1248-Back.E
Quant Time: Feb 26 04:49:46 2011
Quant Method : C:\msdchem\1\METHODS\2-1248-012511.M
Quant Title : 1248 01/14/11
QLast Update : Mon Jan 24 12:46:48 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



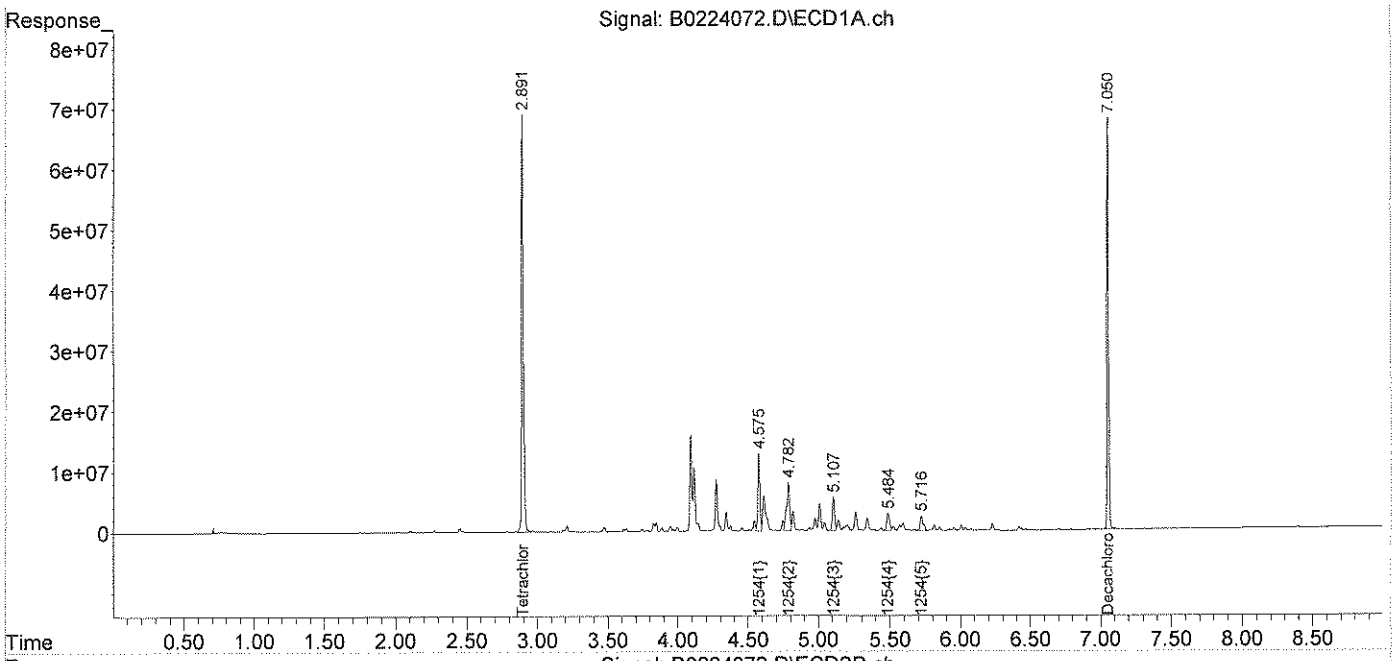


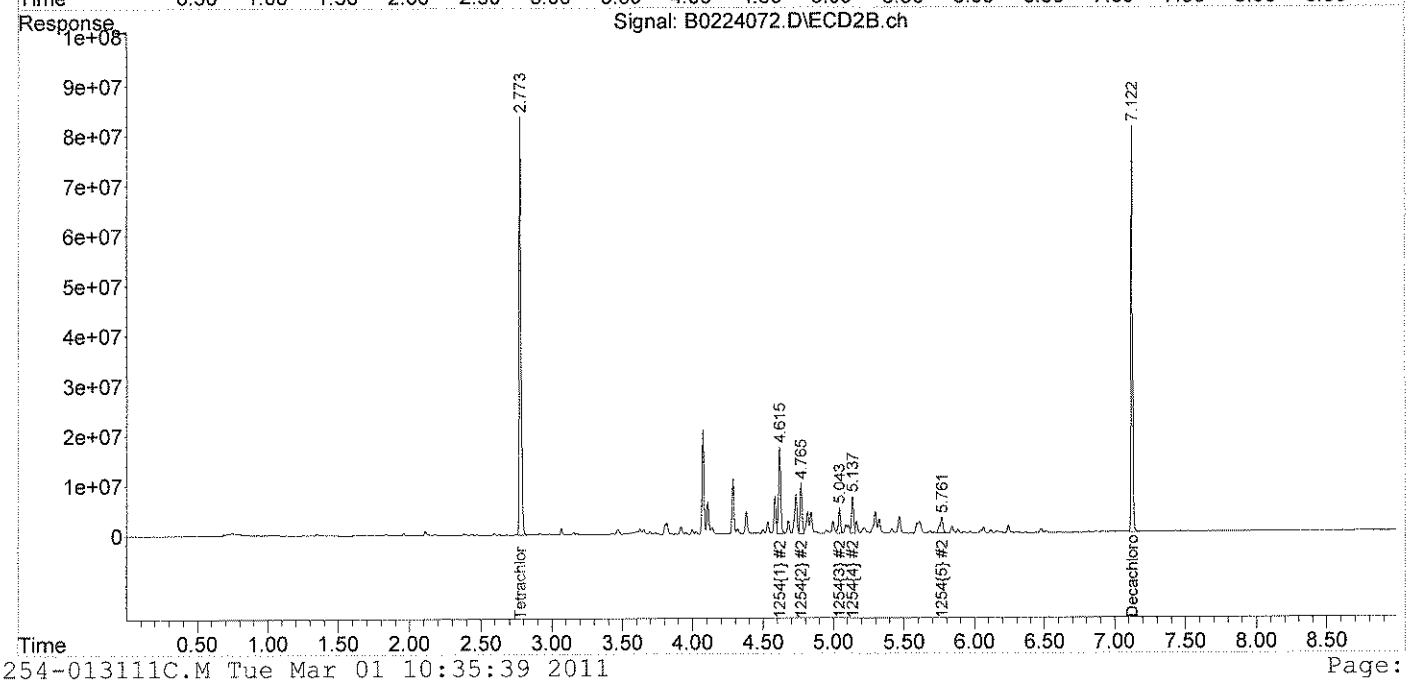
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224072.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:00 pm
Operator : JMB
Sample : 11B0504-02@5X Inst : ECD 2A
Misc :
ALS Vial : 72 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 04:43:01 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



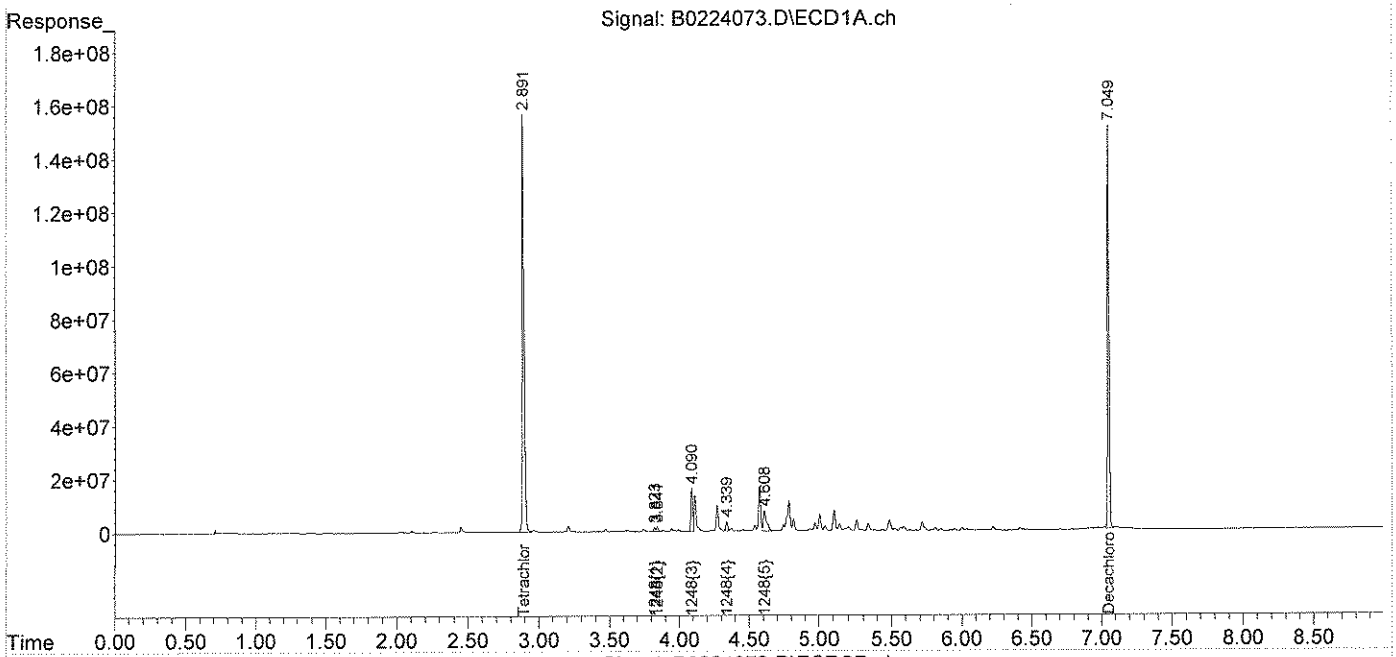


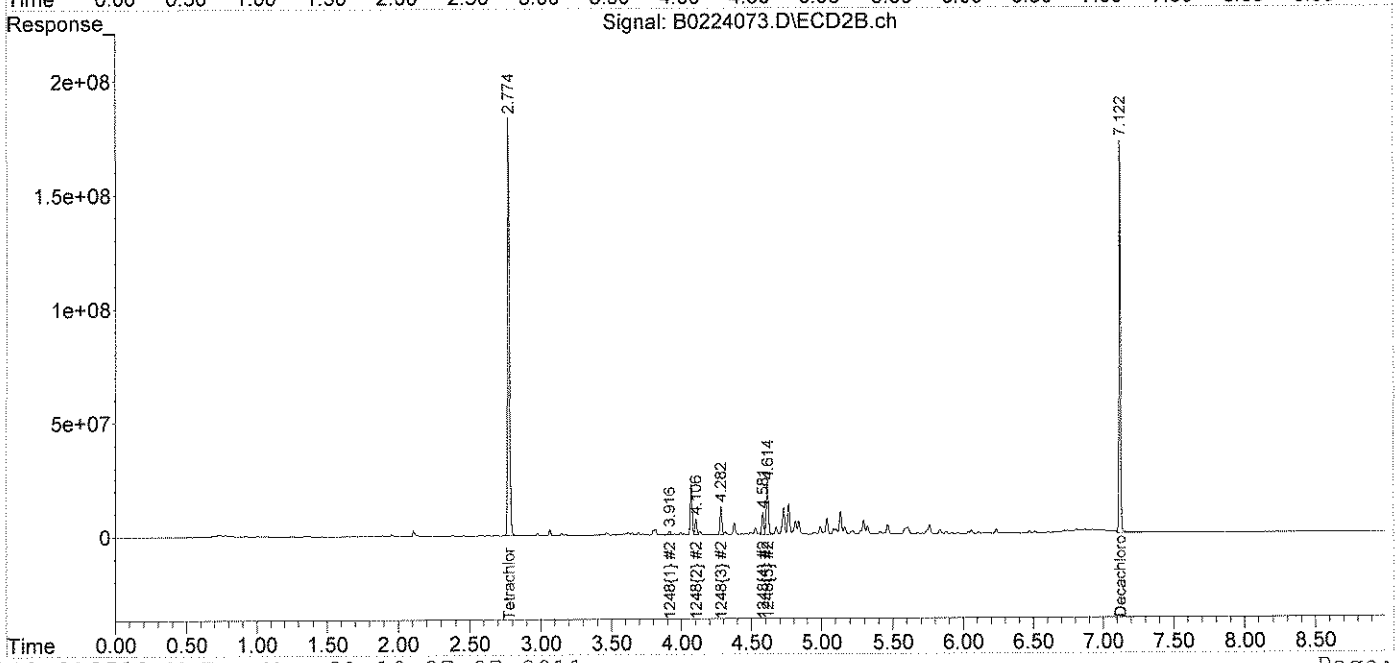
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224073.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:14 pm
Operator : JMB
Sample : 11B0504-03@2X Inst : ECD 2A
Misc :
ALS Vial : 73 Sample Multiplier: 1

Integration File signal 1: 1248-Front.E
Integration File signal 2: 1248-Back.E
Quant Time: Feb 26 04:49:48 2011
Quant Method : C:\msdchem\1\METHODS\2-1248-012511.M
Quant Title : 1248 01/14/11
QLast Update : Mon Jan 24 12:46:48 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



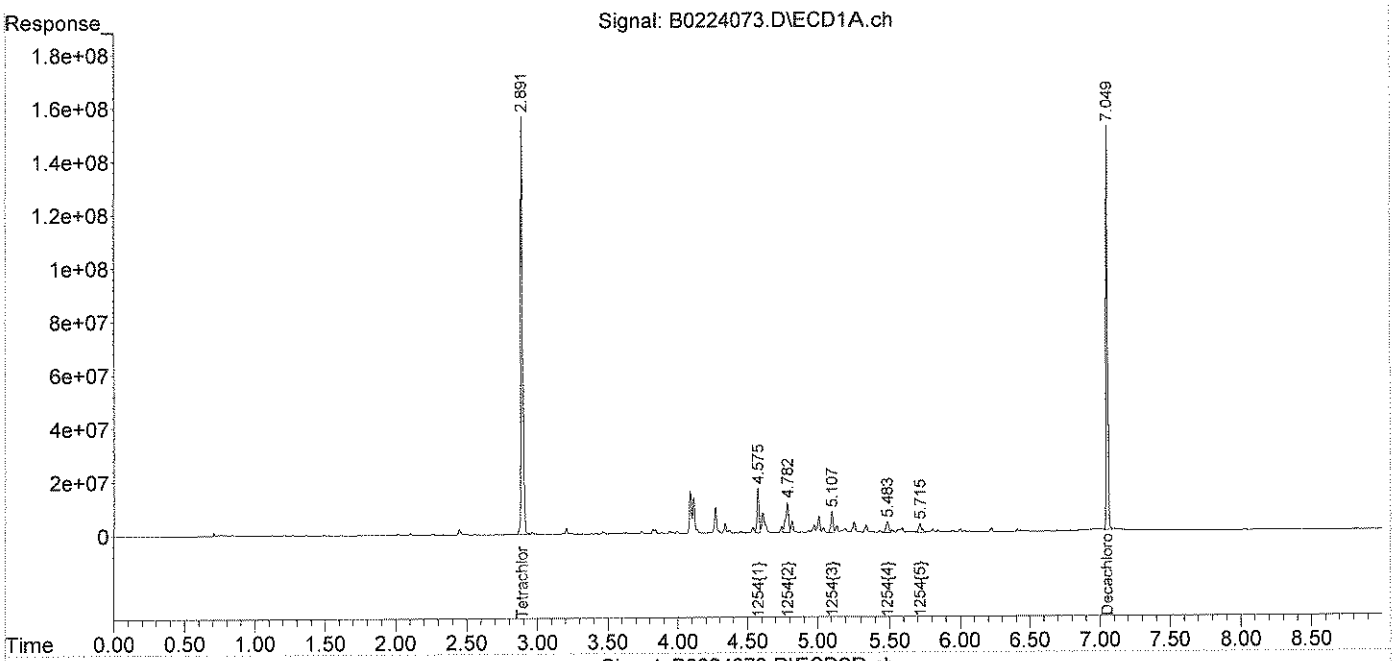


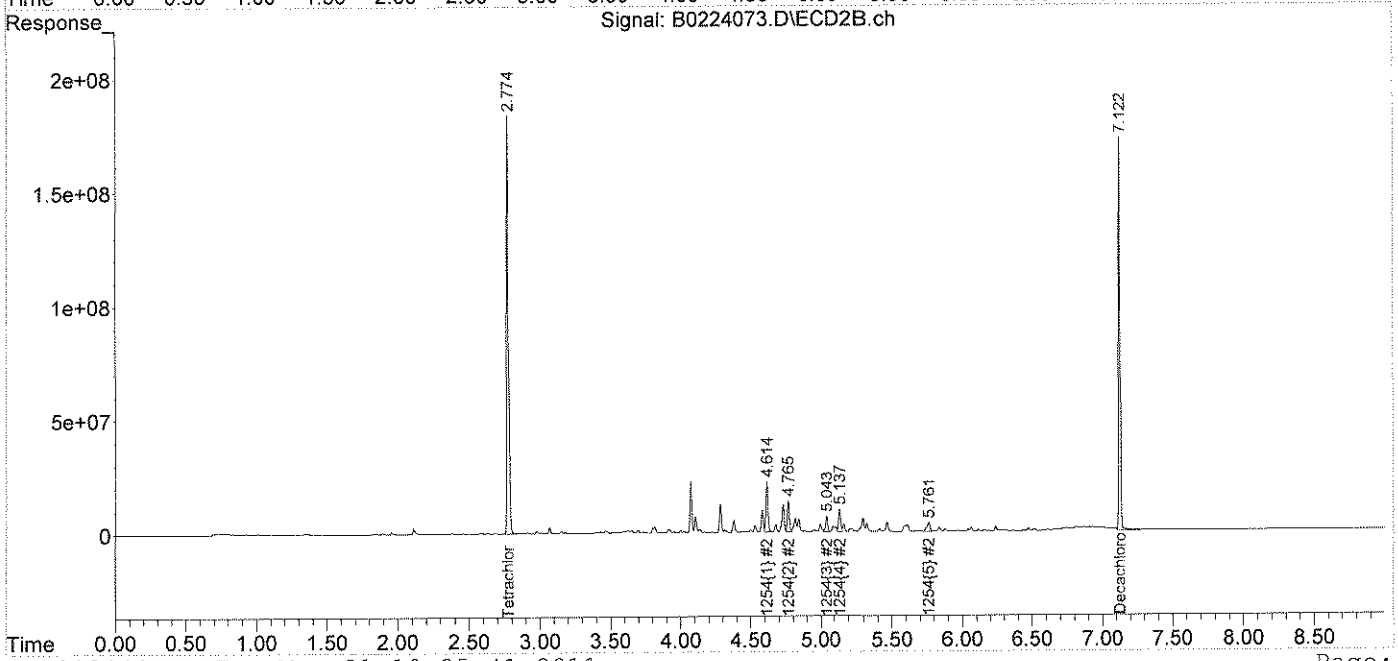
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224073.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:14 pm
Operator : JMB
Sample : 11B0504-03@2X Inst : ECD 2A
Misc :
ALS Vial : 73 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 04:43:03 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



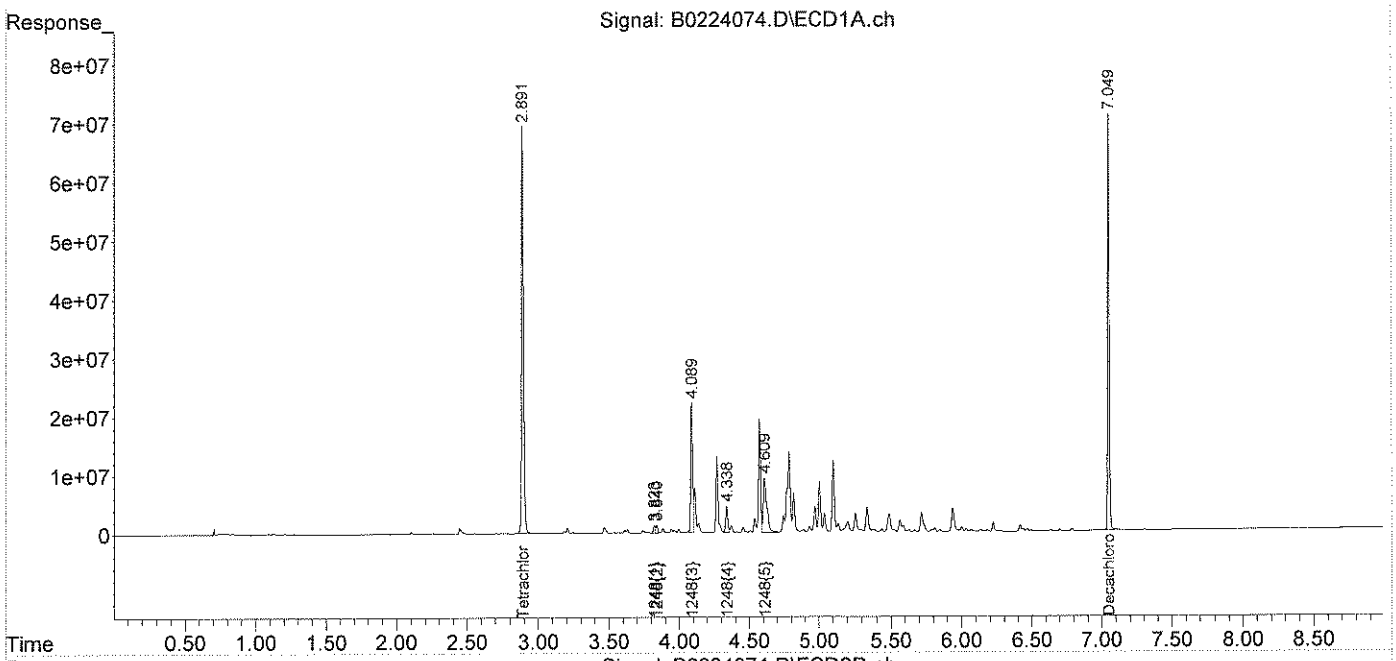


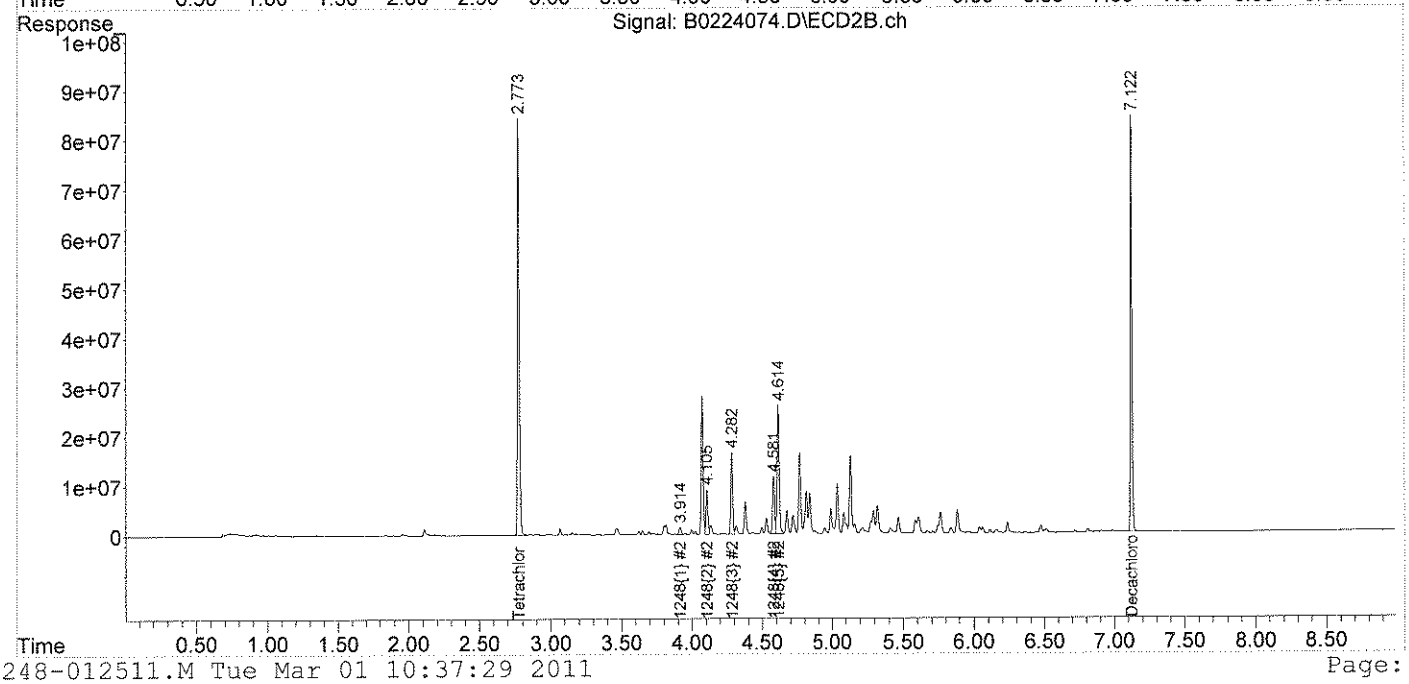
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224074.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:28 pm
Operator : JMB
Sample : 11B0504-04@5X Inst : ECD 2A
Misc :
ALS Vial : 74 Sample Multiplier: 1

Integration File signal 1: 1248-Front.E
Integration File signal 2: 1248-Back.E
Quant Time: Feb 26 04:49:50 2011
Quant Method : C:\msdchem\1\METHODS\2-1248-012511.M
Quant Title : 1248 01/14/11
QLast Update : Mon Jan 24 12:46:48 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



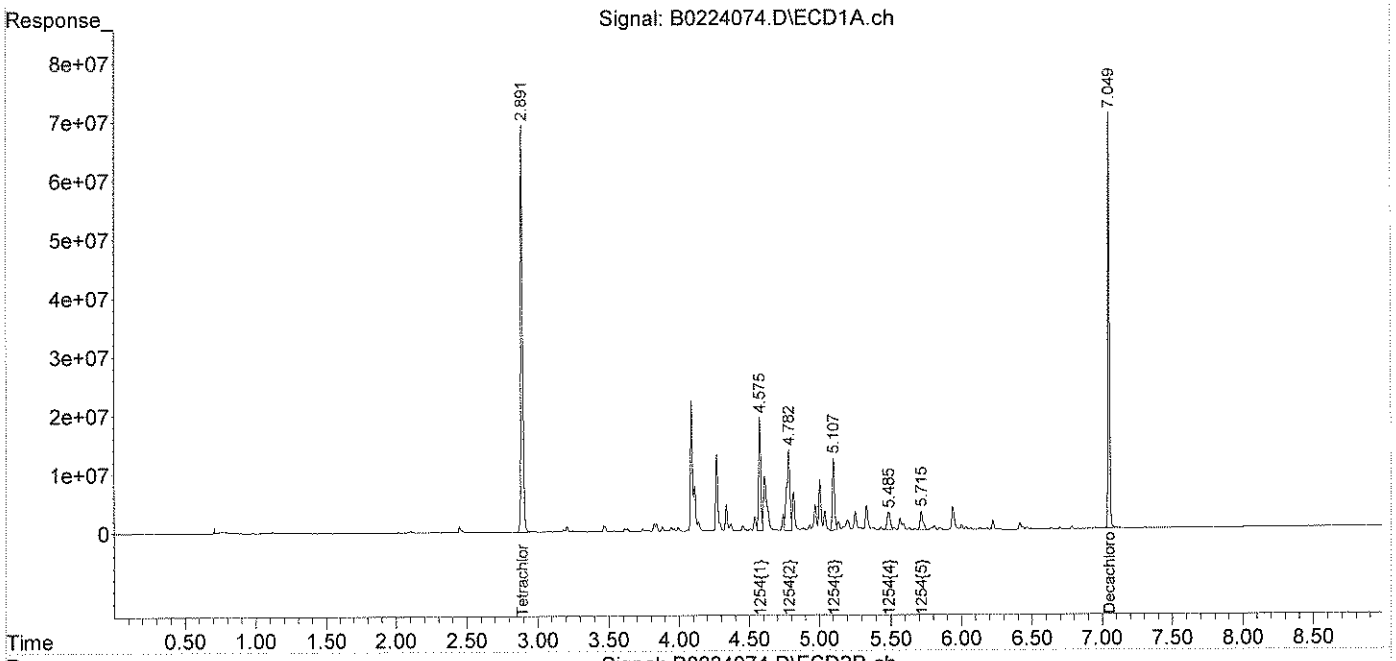


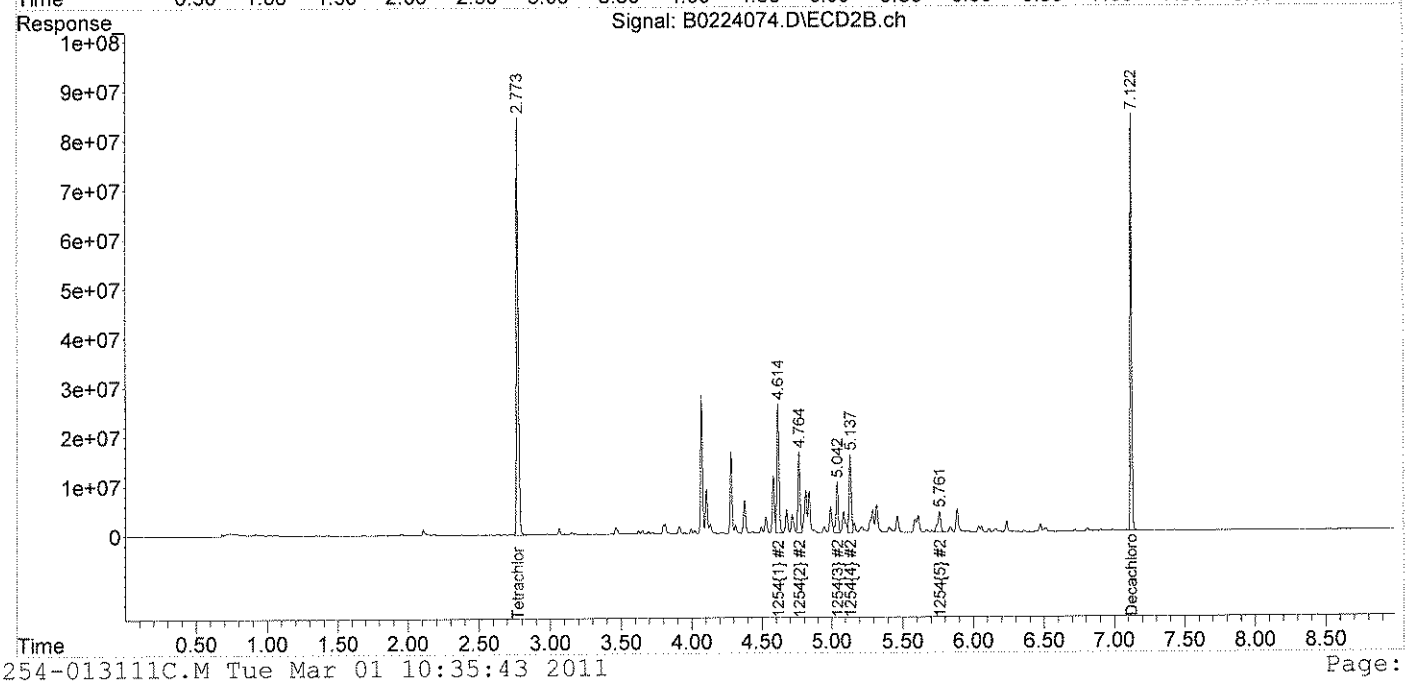
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224074.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:28 pm
Operator : JMB
Sample : 11B0504-04@5X Inst : ECD 2A
Misc :
ALS Vial : 74 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 04:43:05 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



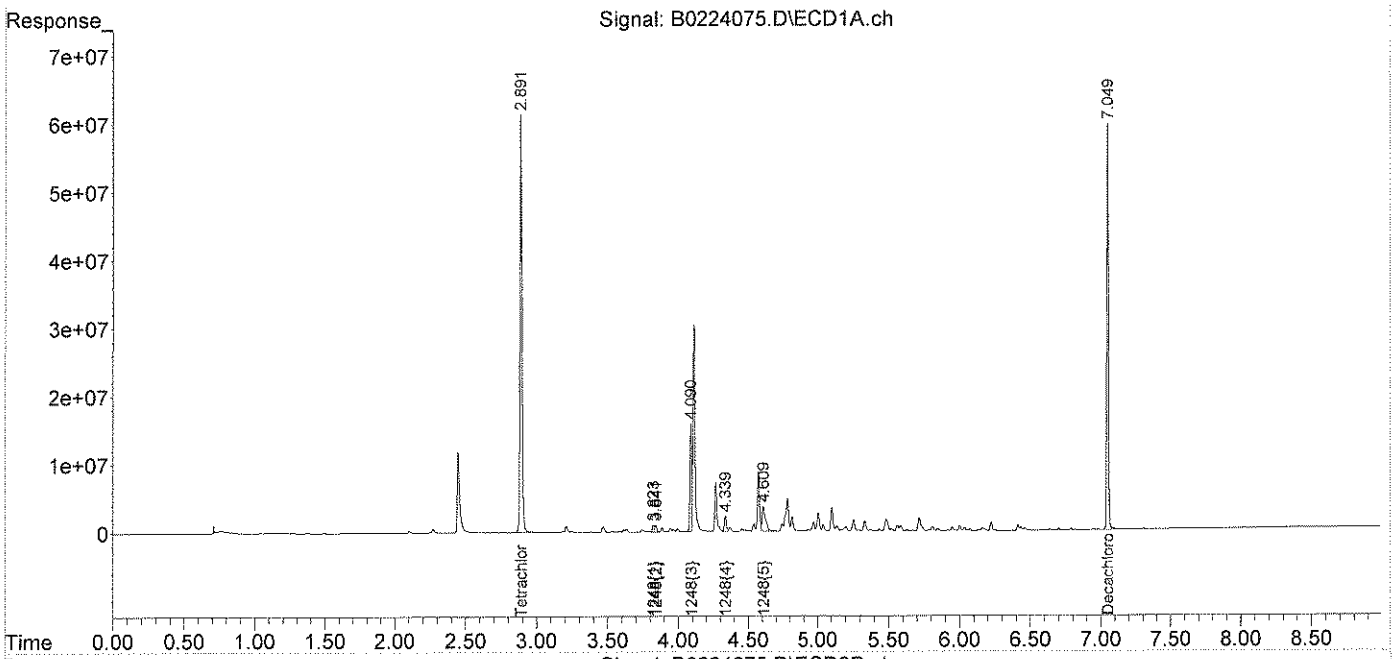


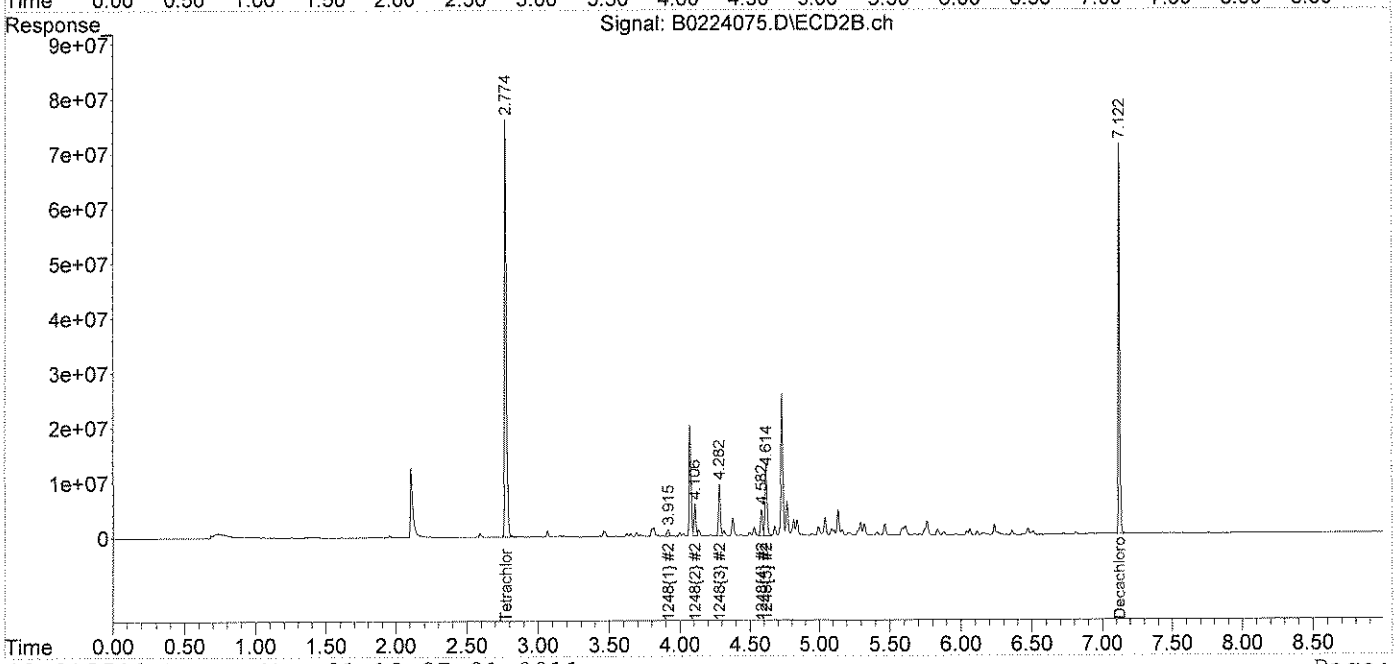
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224075.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:41 pm
Operator : JMB
Sample : 11B0504-05@5X Inst : ECD 2A
Misc :
ALS Vial : 75 Sample Multiplier: 1

Integration File signal 1: 1248-Front.E
Integration File signal 2: 1248-Back.E
Quant Time: Feb 26 04:49:52 2011
Quant Method : C:\msdchem\1\METHODS\2-1248-012511.M
Quant Title : 1248 01/14/11
QLast Update : Mon Jan 24 12:46:48 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



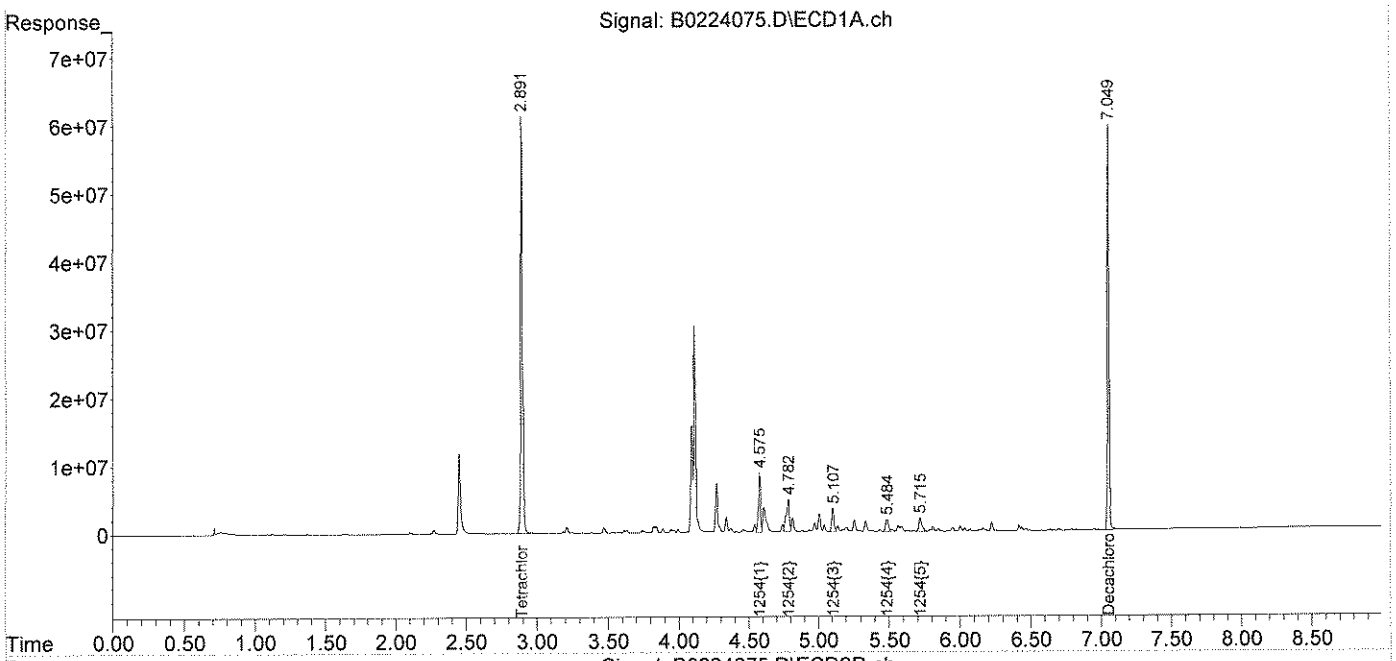


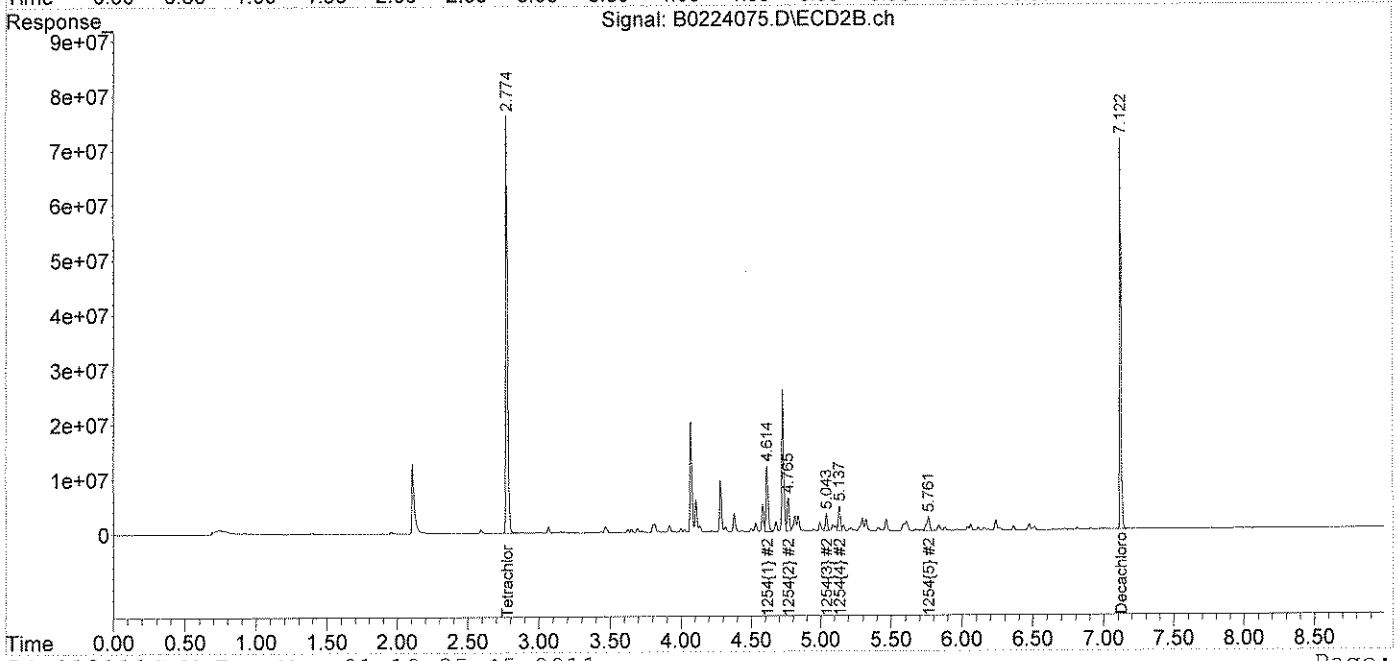
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224075.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:41 pm
Operator : JMB
Sample : 11B0504-05@5X Inst : ECD 2A
Misc :
ALS Vial : 75 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 04:43:07 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



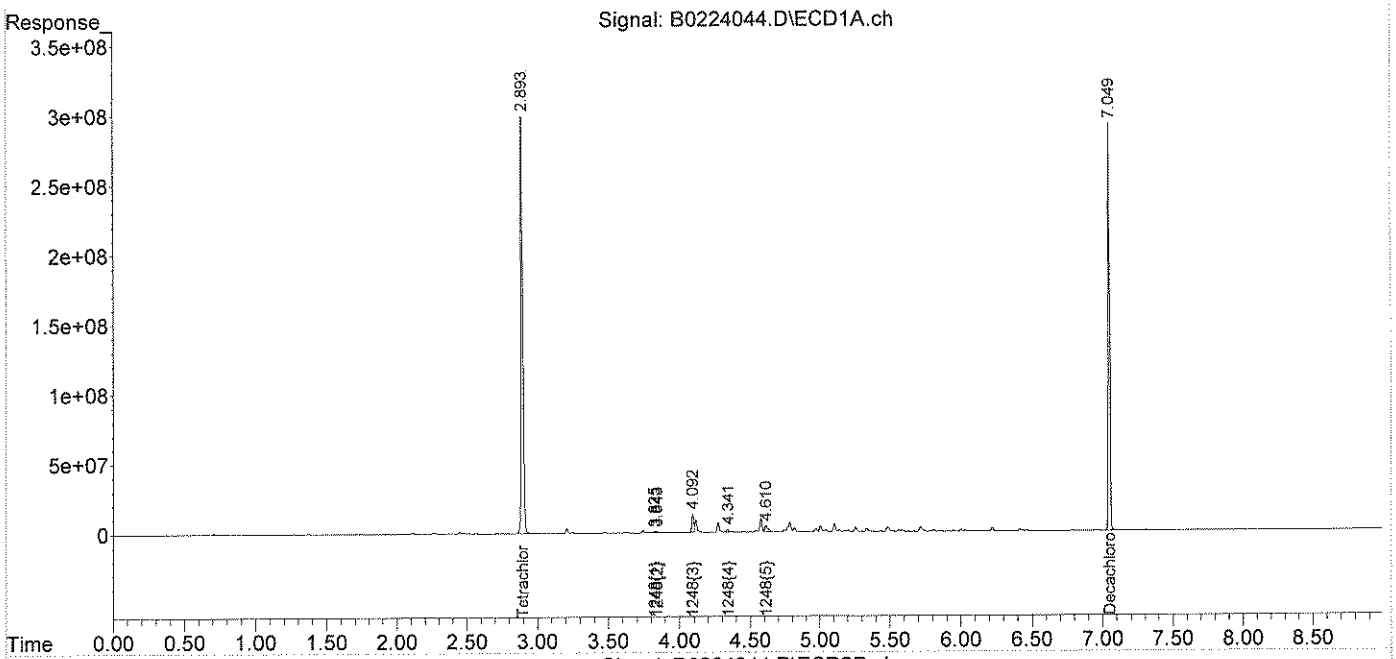


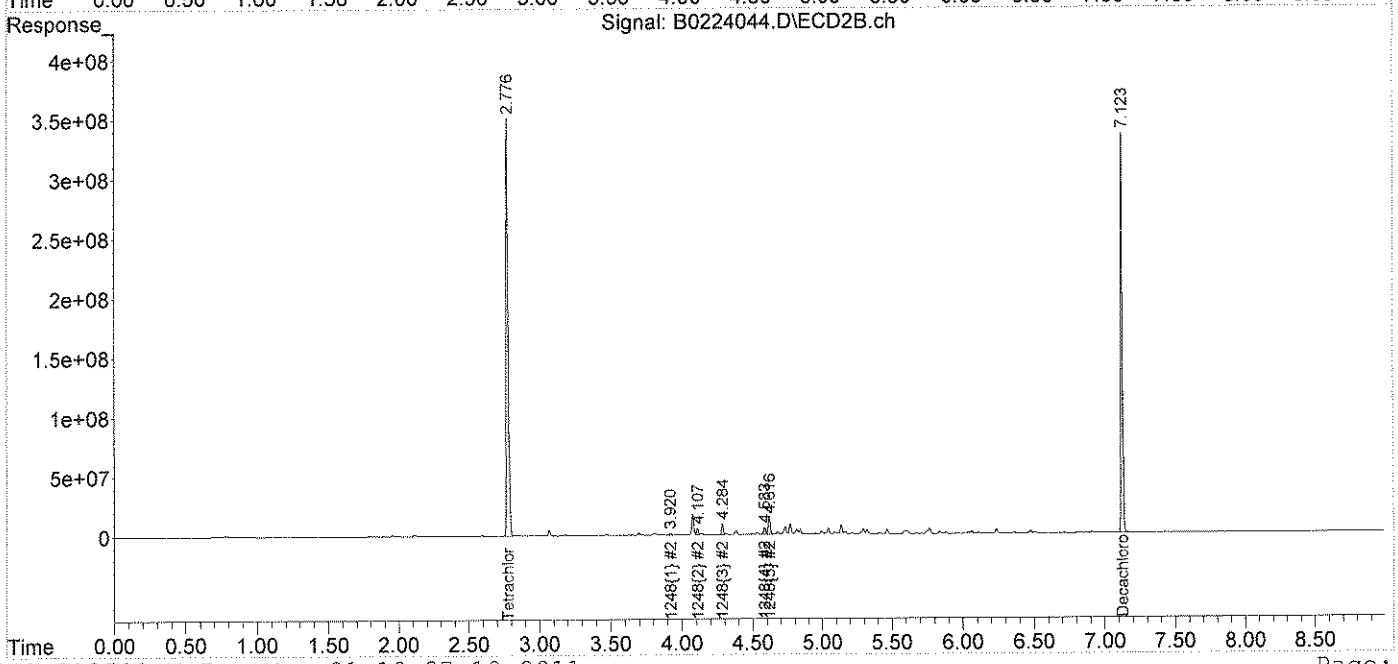
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224044.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 24 Feb 2011 9:05 pm
Operator : JMB
Sample : 11B0504-06 Inst : ECD 2A
Misc :
ALS Vial : 44 Sample Multiplier: 1

Integration File signal 1: 1248-Front.E
Integration File signal 2: 1248-Back.E
Quant Time: Feb 26 04:47:02 2011
Quant Method : C:\msdchem\1\METHODS\2-1248-012511.M
Quant Title : 1248 01/14/11
QLast Update : Mon Jan 24 12:46:48 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



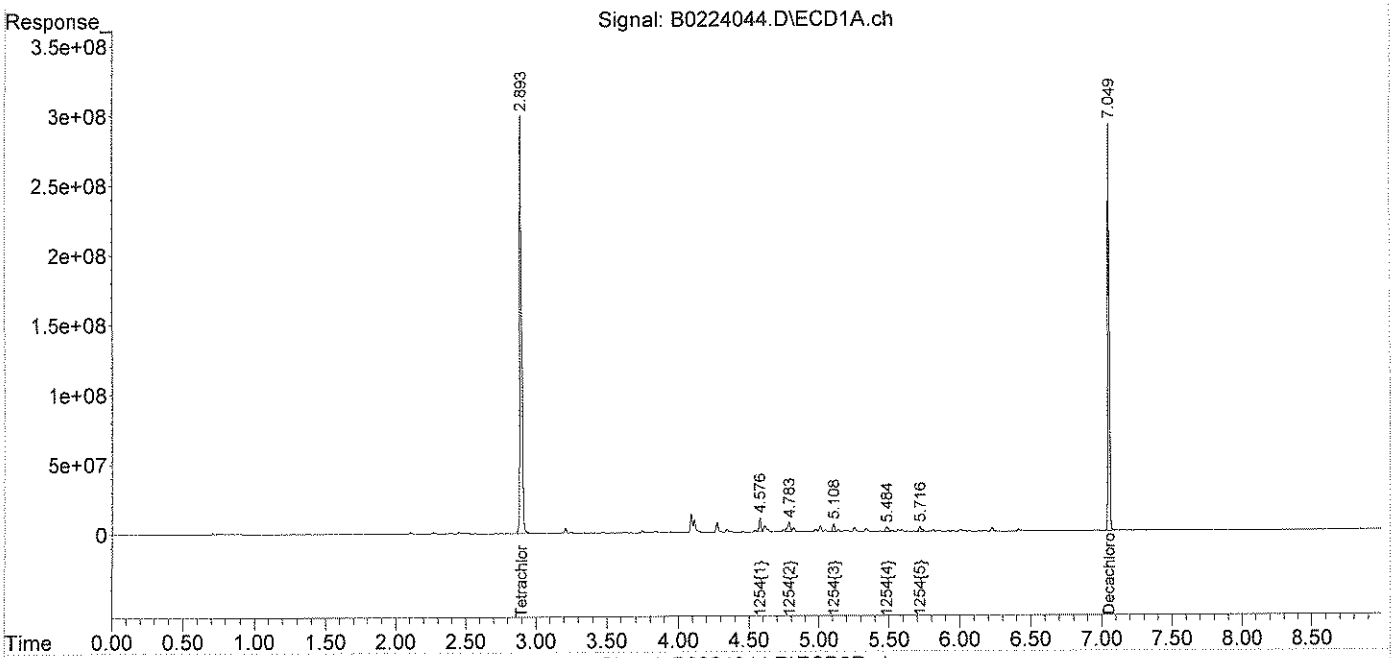


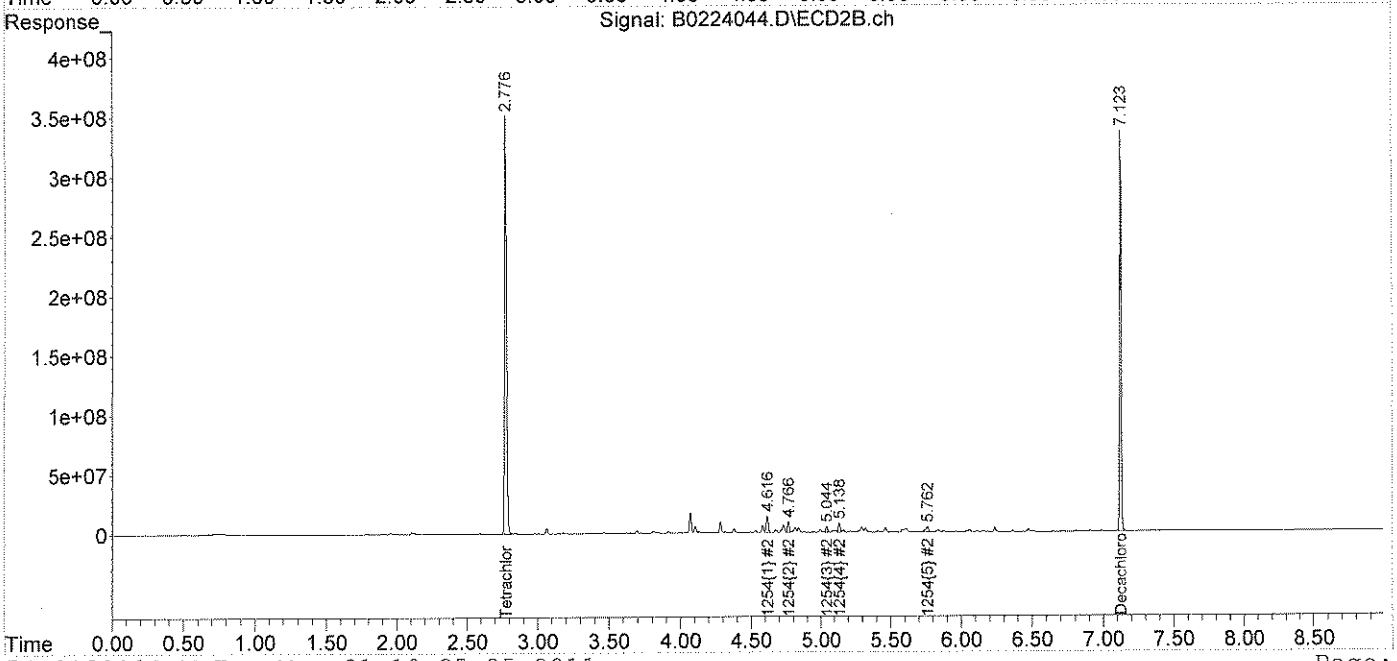
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224044.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 24 Feb 2011 9:05 pm
Operator : JMB
Sample : 11B0504-06 Inst : ECD 2A
Misc :
ALS Vial : 44 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 25 04:43:52 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



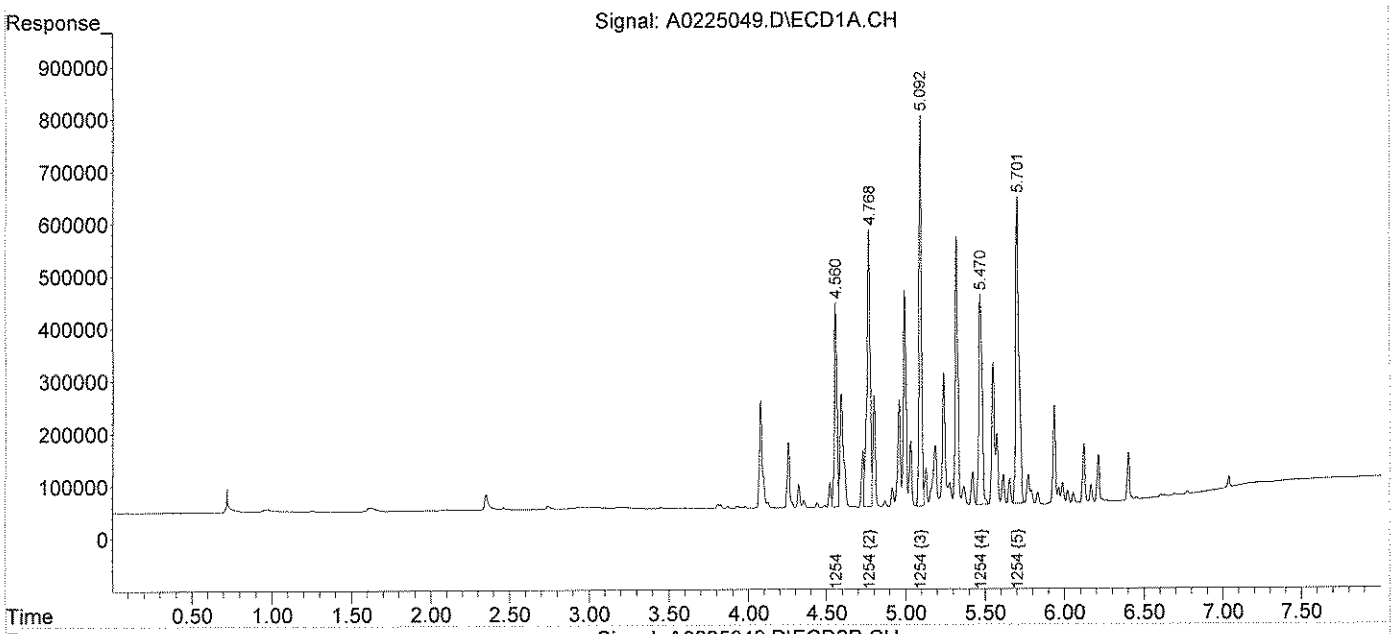


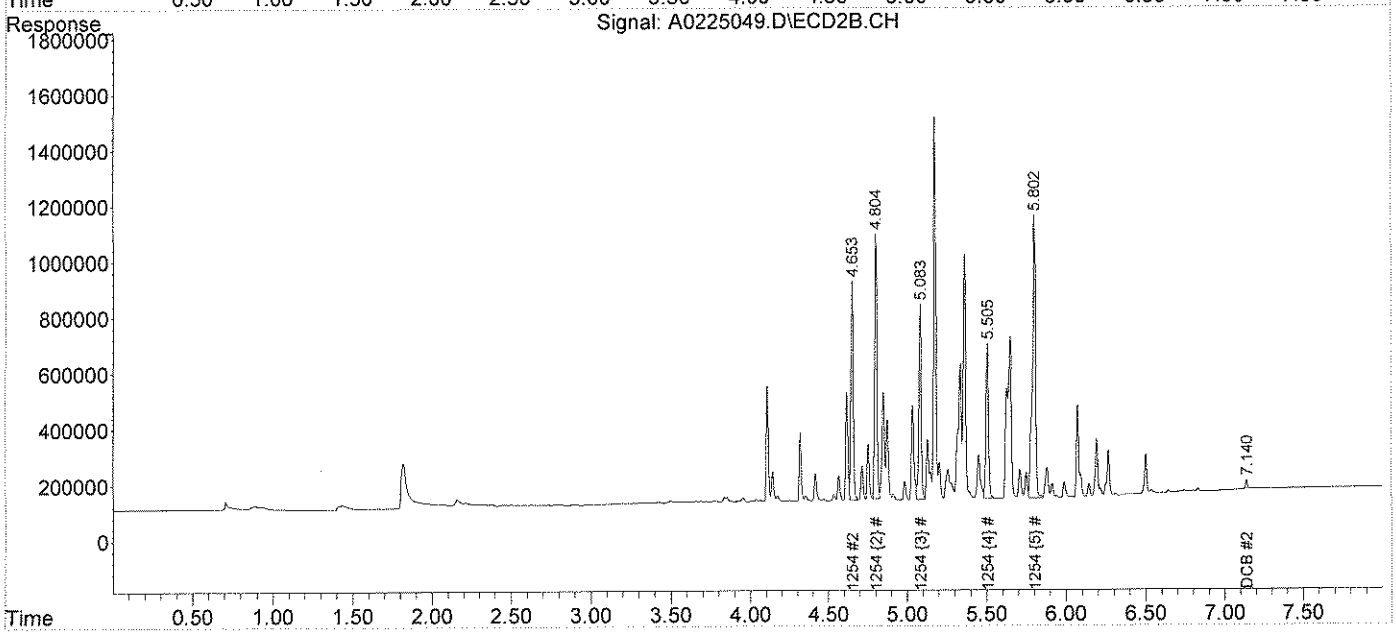
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022511\
Data File : A0225049.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Feb 2011 6:50 am
Operator : JMB
Sample : 11B0504-07@50000 Inst : HP G1530A
Misc :
ALS Vial : 49 Sample Multiplier: 1

Integration File signal 1: 54-F.E
Integration File signal 2: 54-B.E
Quant Time: Feb 26 07:06:36 2011
DataAcq Meth:H2PEST02.M
Quant Method : C:\msdchem\1\METHODS\PCB METHODS\H54022111.M
Quant Title : 1254 02/08/11 09/28/10
QLast Update : Tue Feb 22 09:06:17 2011
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



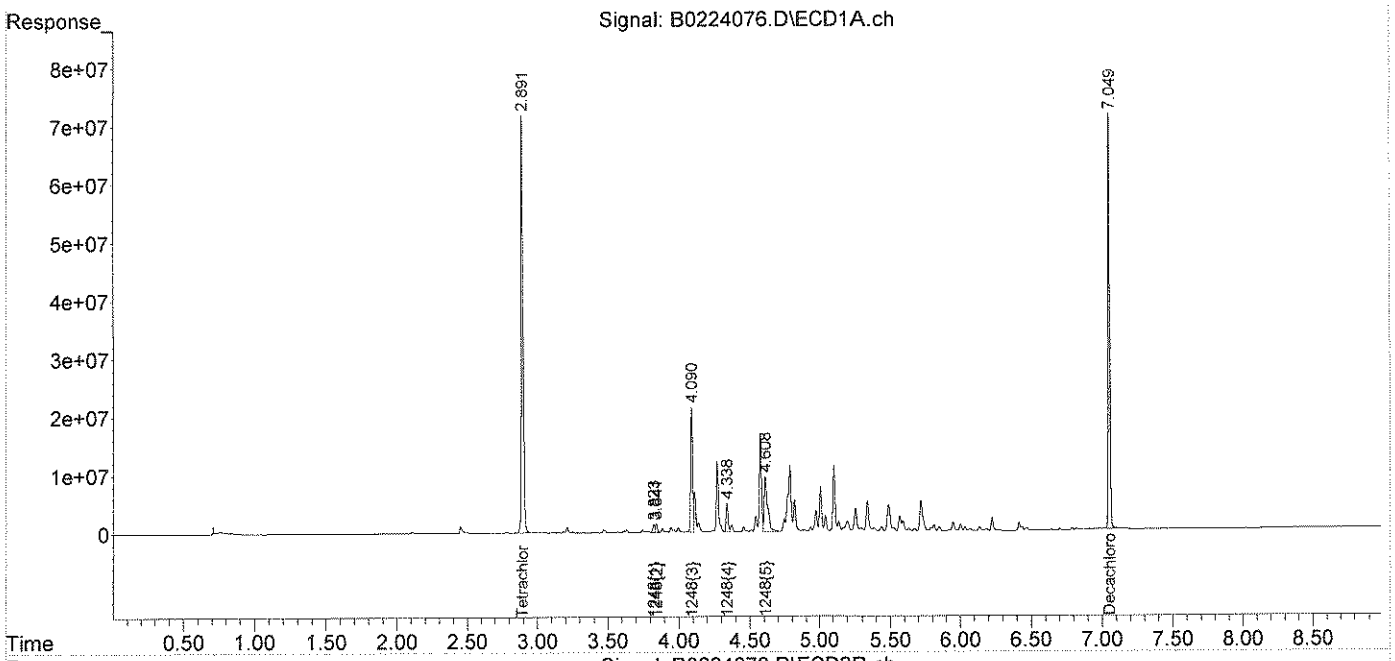


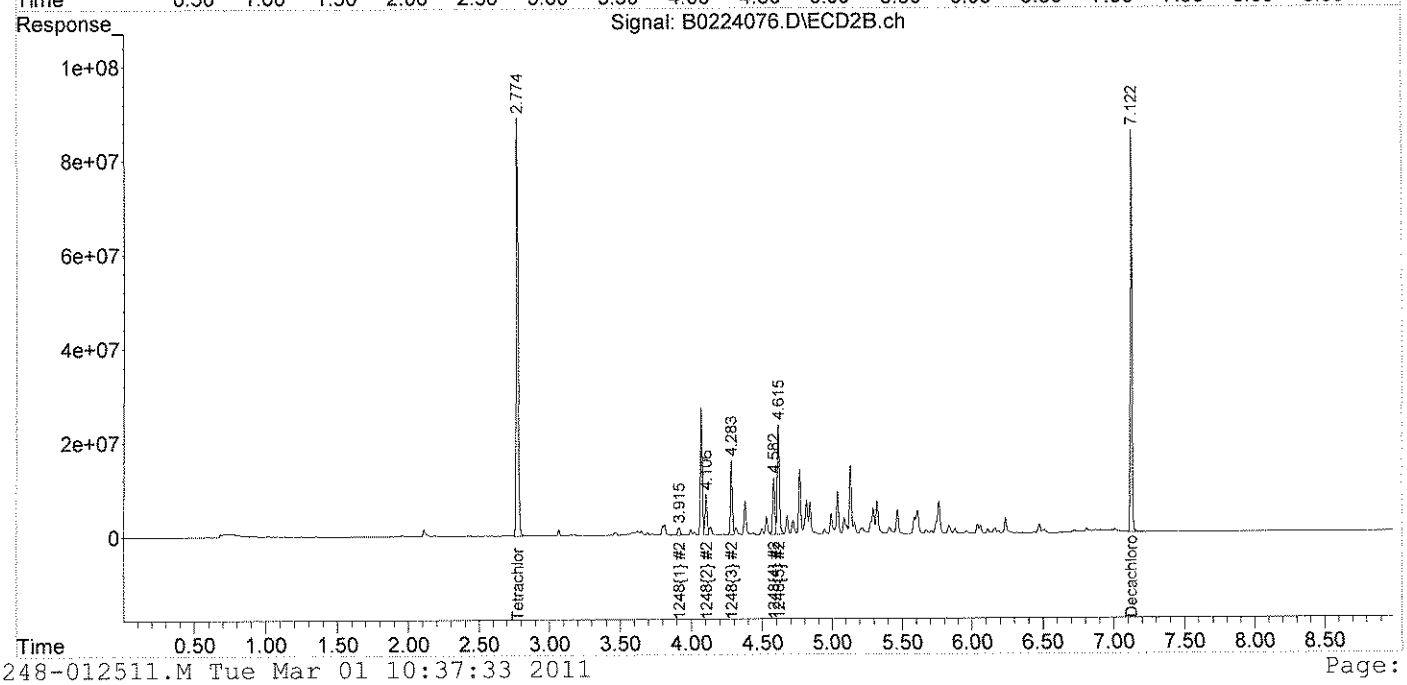
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224076.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:55 pm
Operator : JMB
Sample : 11B0504-08@5X Inst : ECD 2A
Misc :
ALS Vial : 76 Sample Multiplier: 1

Integration File signal 1: 1248-Front.E
Integration File signal 2: 1248-Back.E
Quant Time: Feb 26 04:49:54 2011
Quant Method : C:\msdchem\1\METHODS\2-1248-012511.M
Quant Title : 1248 01/14/11
QLast Update : Mon Jan 24 12:46:48 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



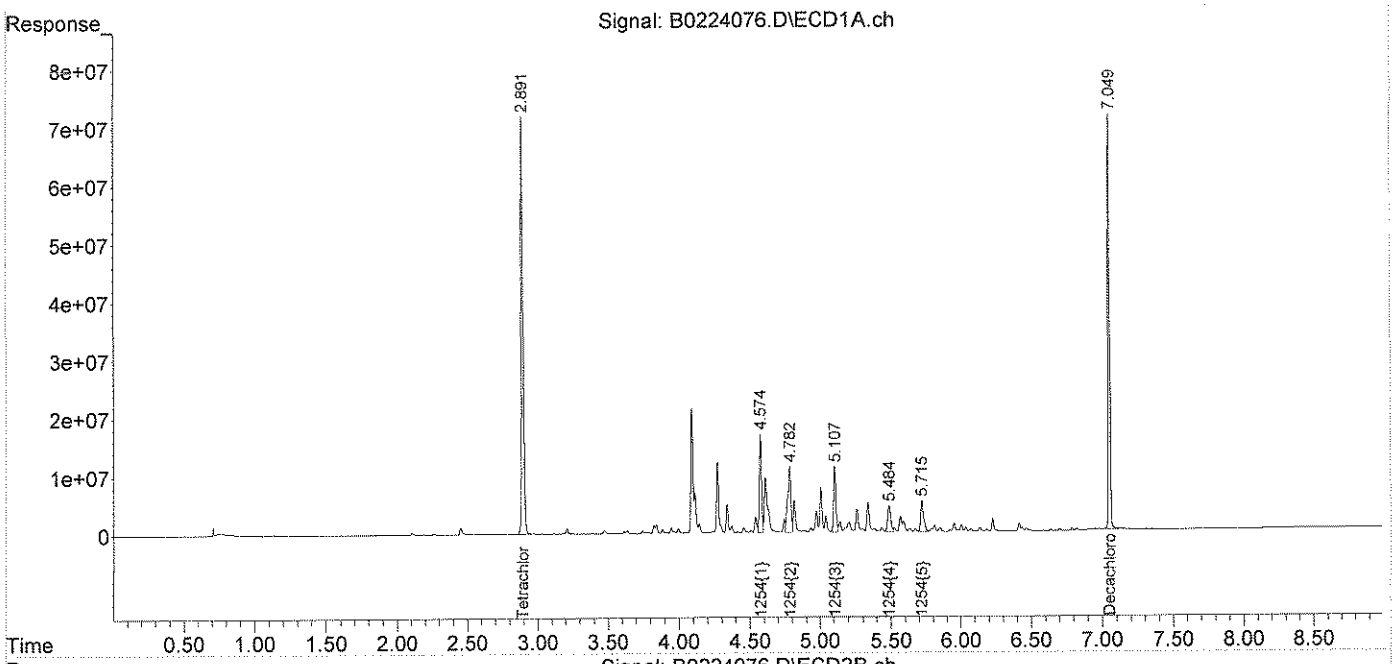


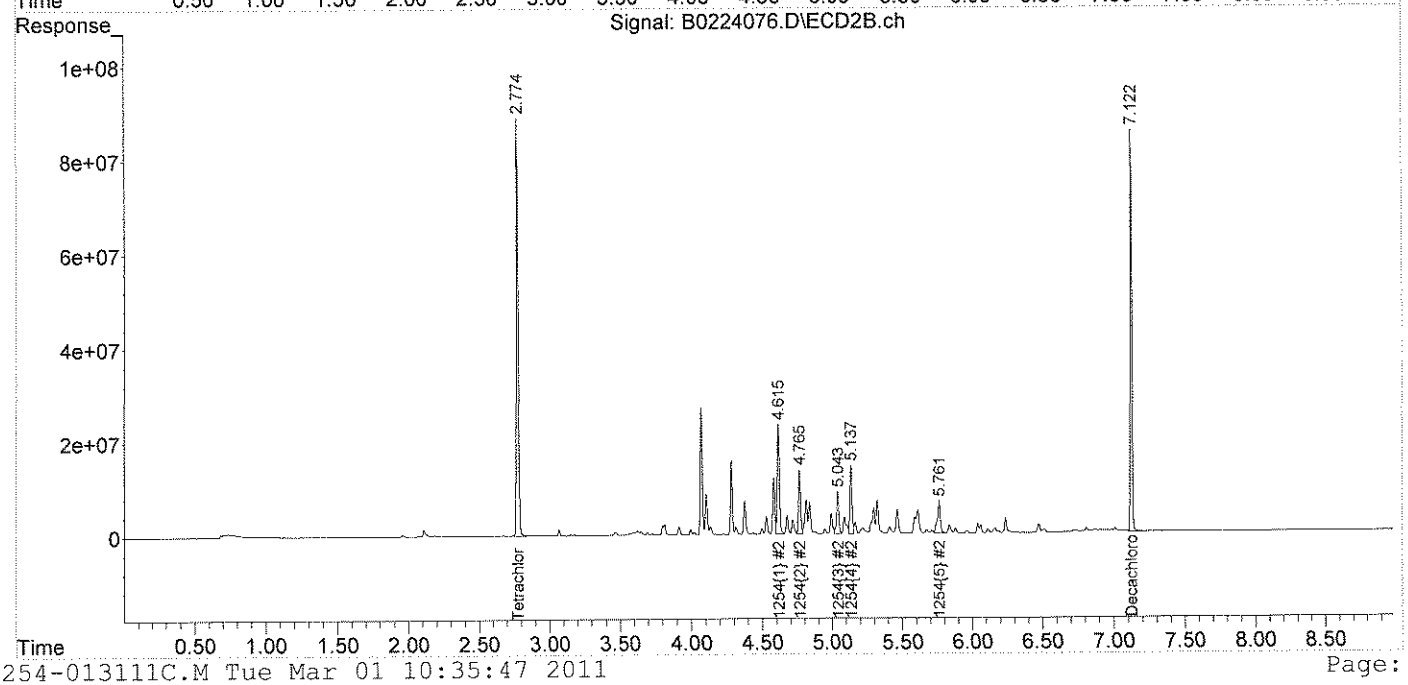
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224076.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 4:55 pm
Operator : JMB
Sample : 11B0504-08@5X Inst : ECD 2A
Misc :
ALS Vial : 76 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 04:43:09 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



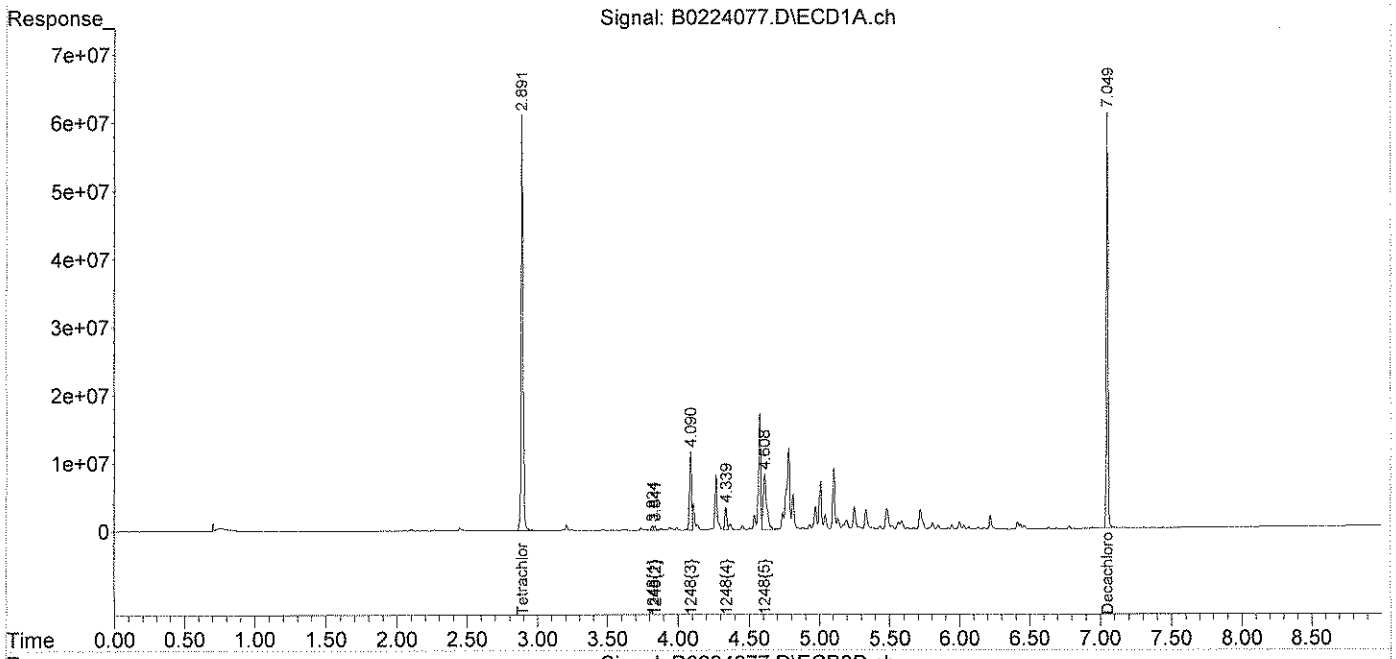


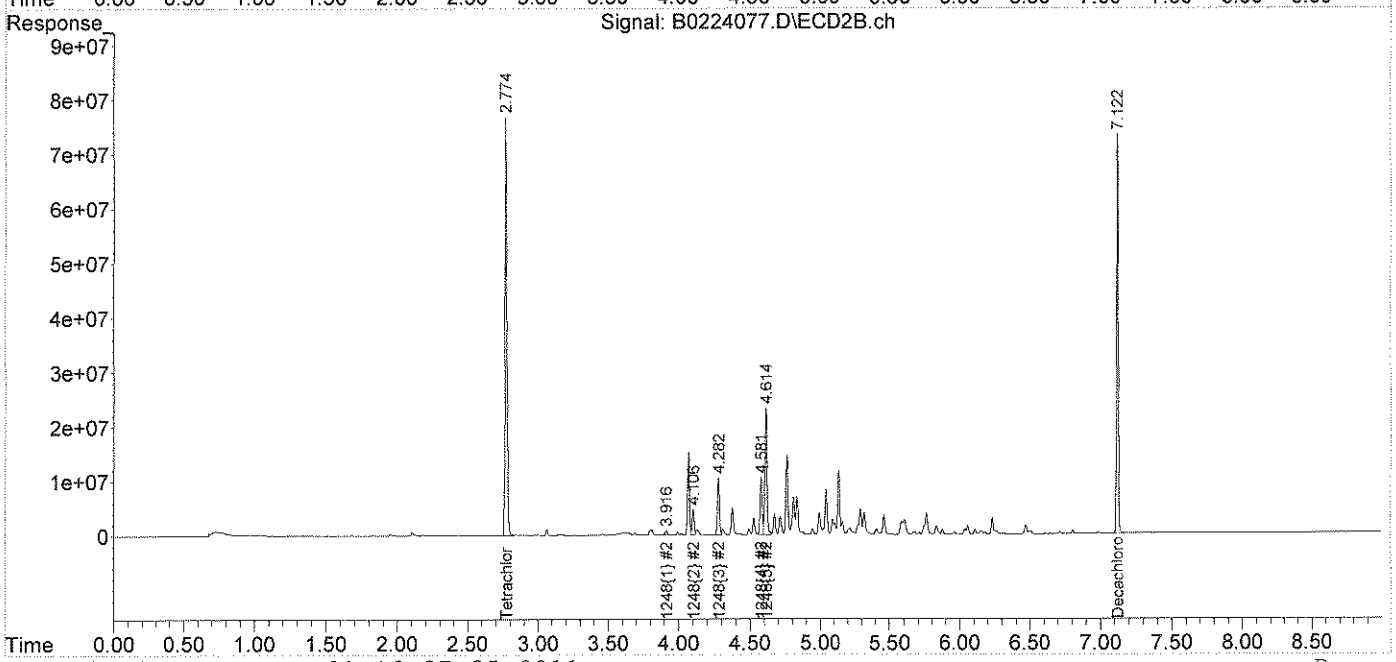
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224077.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 5:08 pm
Operator : JMB
Sample : 11B0504-09@5X Inst : ECD 2A
Misc :
ALS Vial : 77 Sample Multiplier: 1

Integration File signal 1: 1248-Front.E
Integration File signal 2: 1248-Back.E
Quant Time: Feb 26 04:49:56 2011
Quant Method : C:\msdchem\1\METHODS\2-1248-012511.M
Quant Title : 1248 01/14/11
QLast Update : Mon Jan 24 12:46:48 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



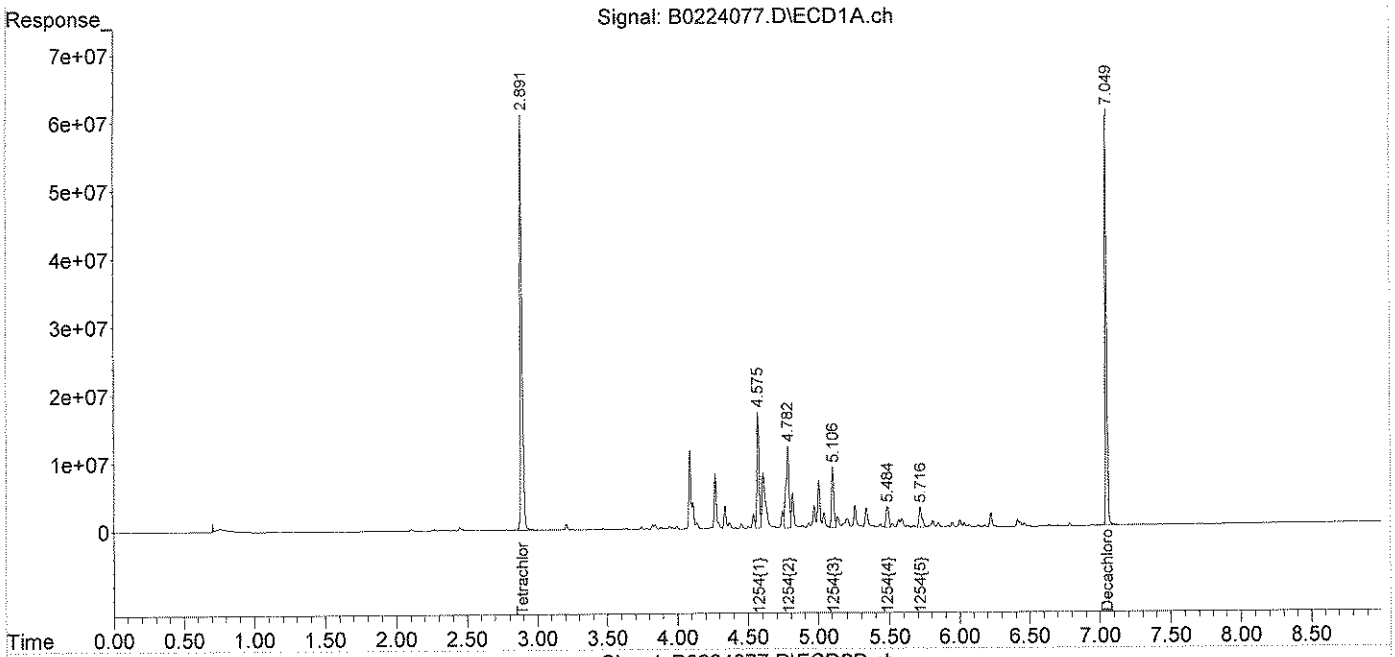


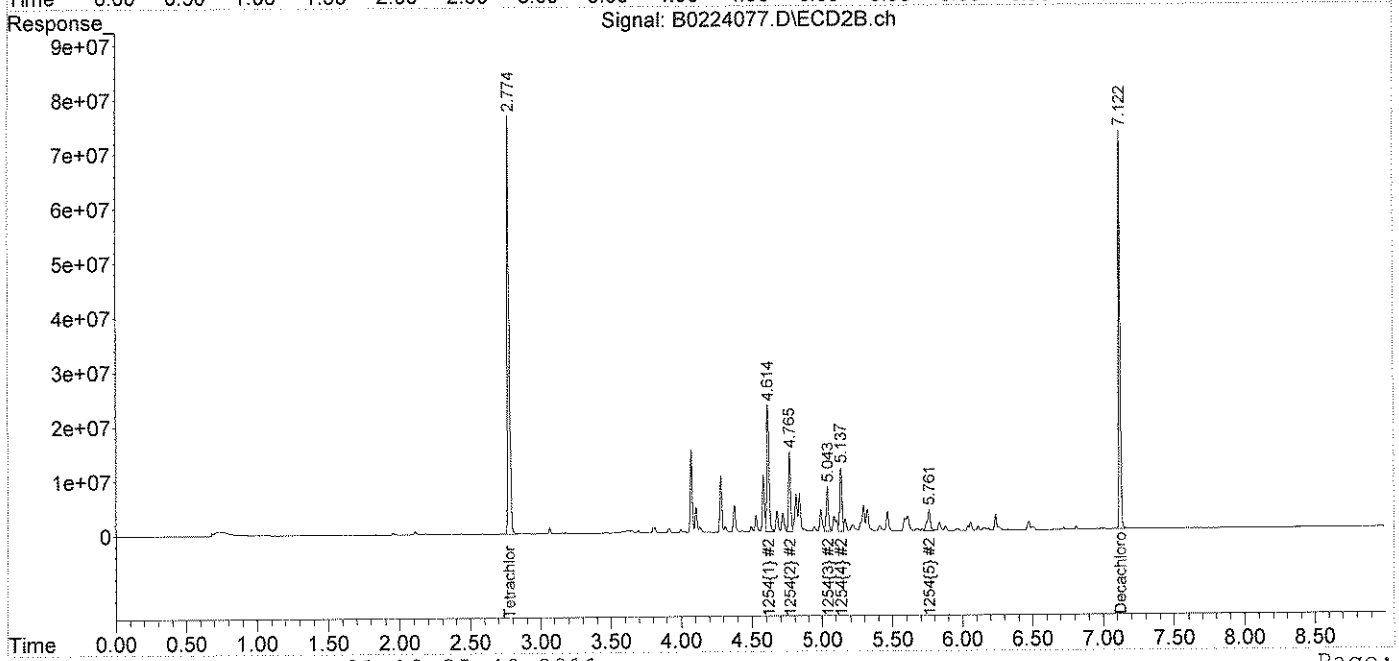
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224077.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 5:08 pm
Operator : JMB
Sample : 11B0504-09@5X Inst : ECD 2A
Misc :
ALS Vial : 77 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 04:43:11 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



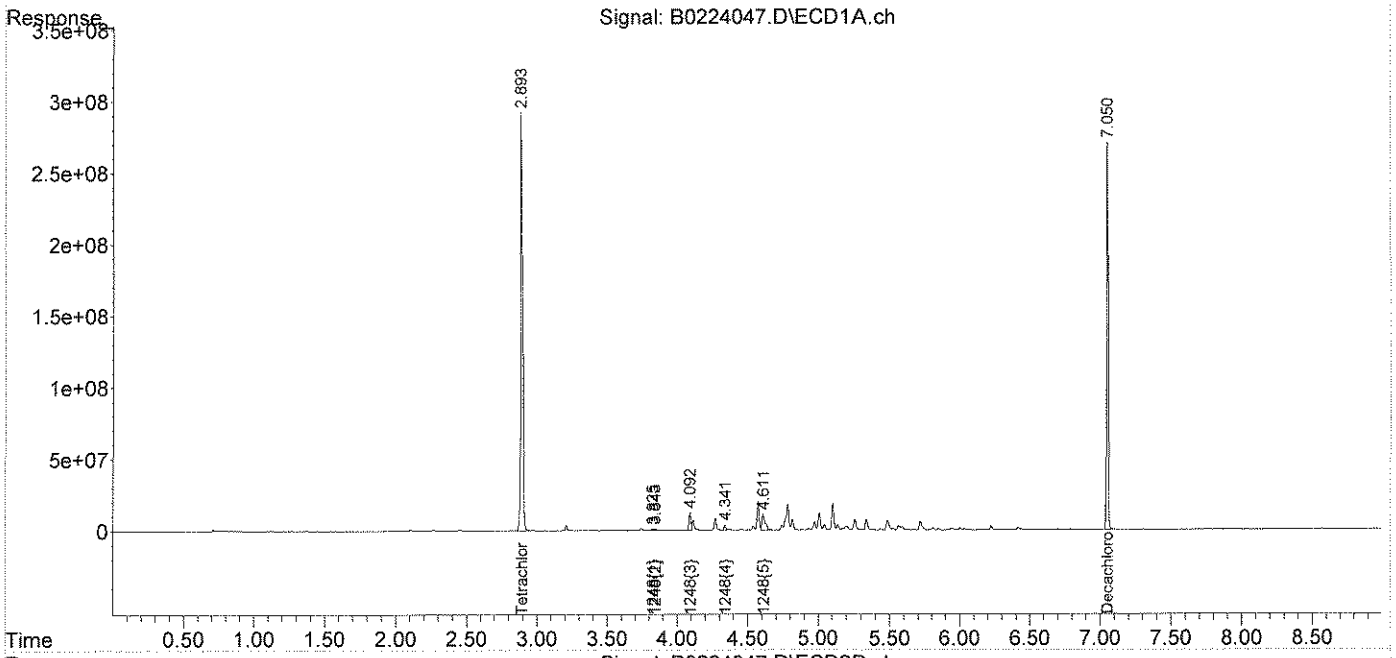


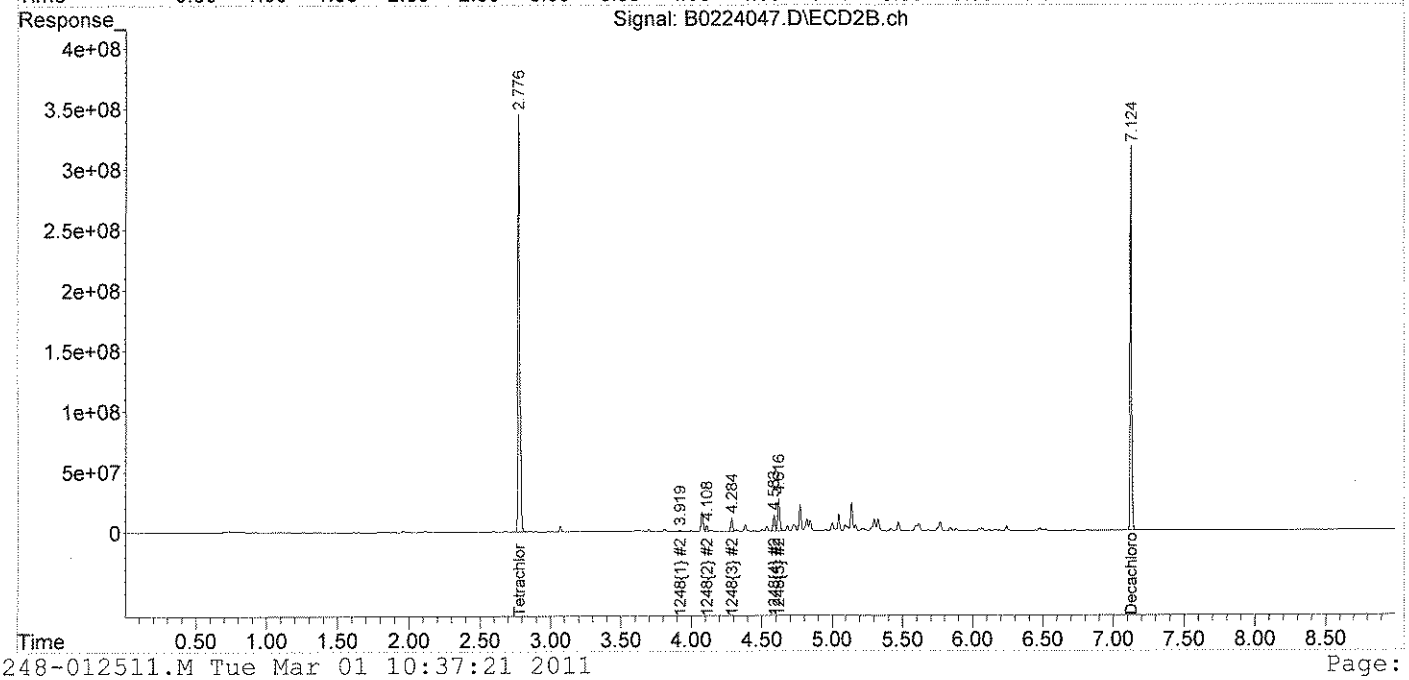
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224047.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 24 Feb 2011 9:45 pm
Operator : JMB
Sample : 11B0504-10 Inst : ECD 2A
Misc :
ALS Vial : 47 Sample Multiplier: 1

Integration File signal 1: 1248-Front.E
Integration File signal 2: 1248-Back.E
Quant Time: Feb 26 04:47:08 2011
Quant Method : C:\msdchem\1\METHODS\2-1248-012511.M
Quant Title : 1248 01/14/11
QLast Update : Mon Jan 24 12:46:48 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



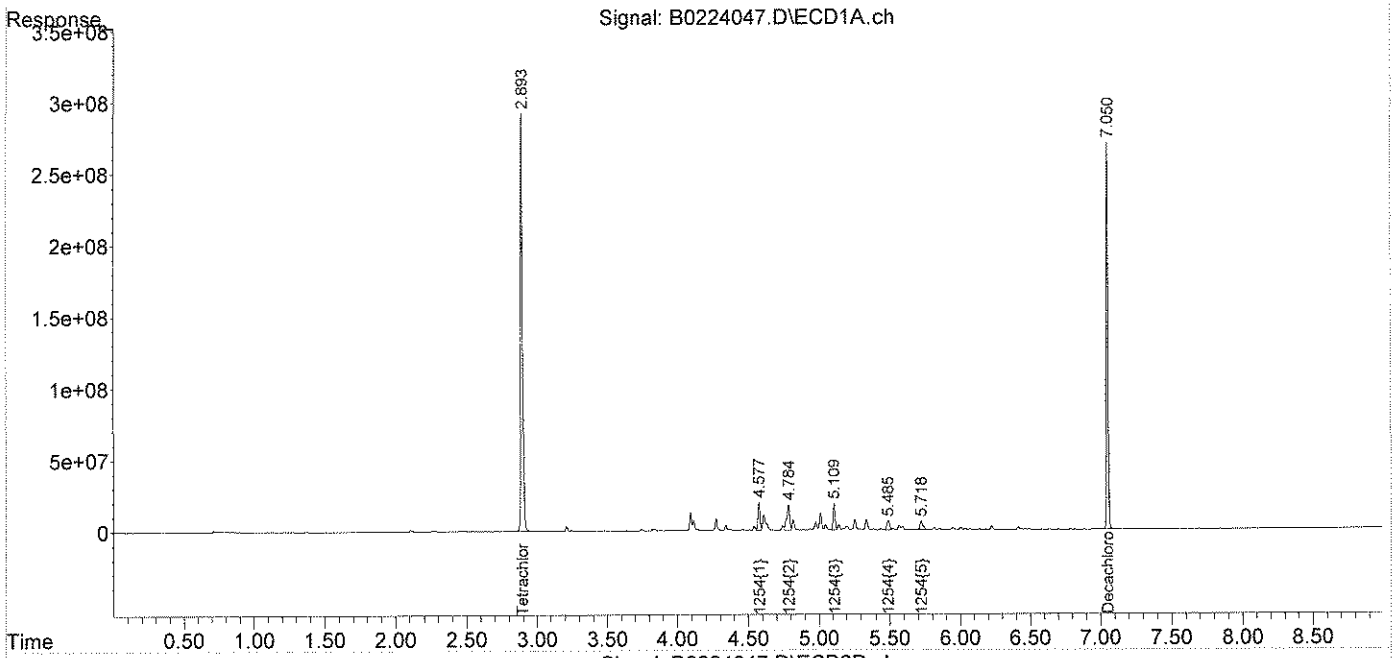


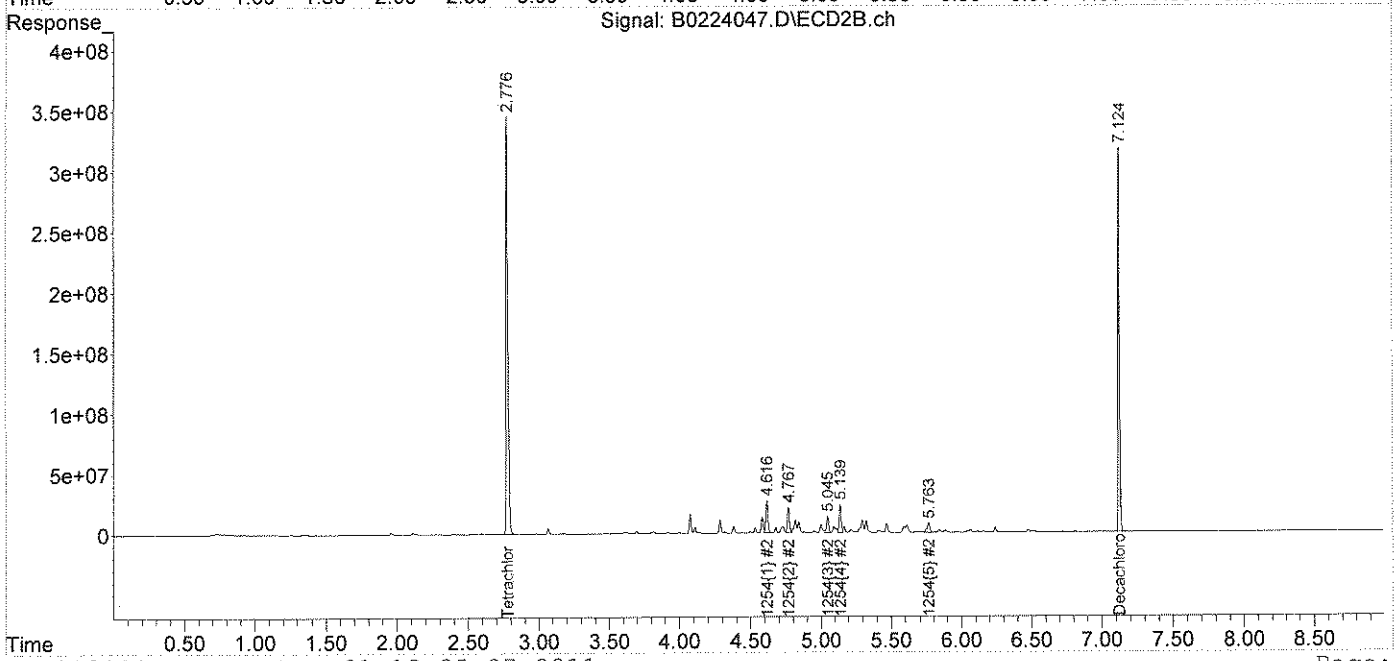
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224047.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 24 Feb 2011 9:45 pm
Operator : JMB
Sample : 11B0504-10 Inst : ECD 2A
Misc :
ALS Vial : 47 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 25 04:43:58 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



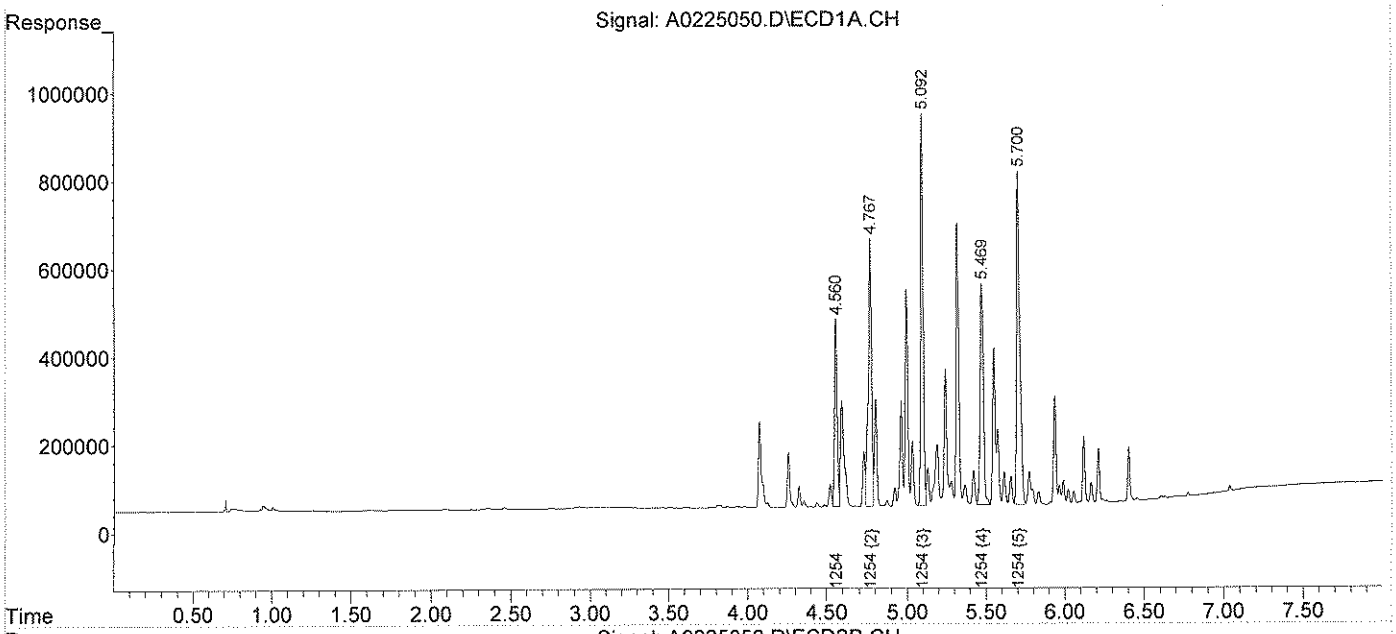


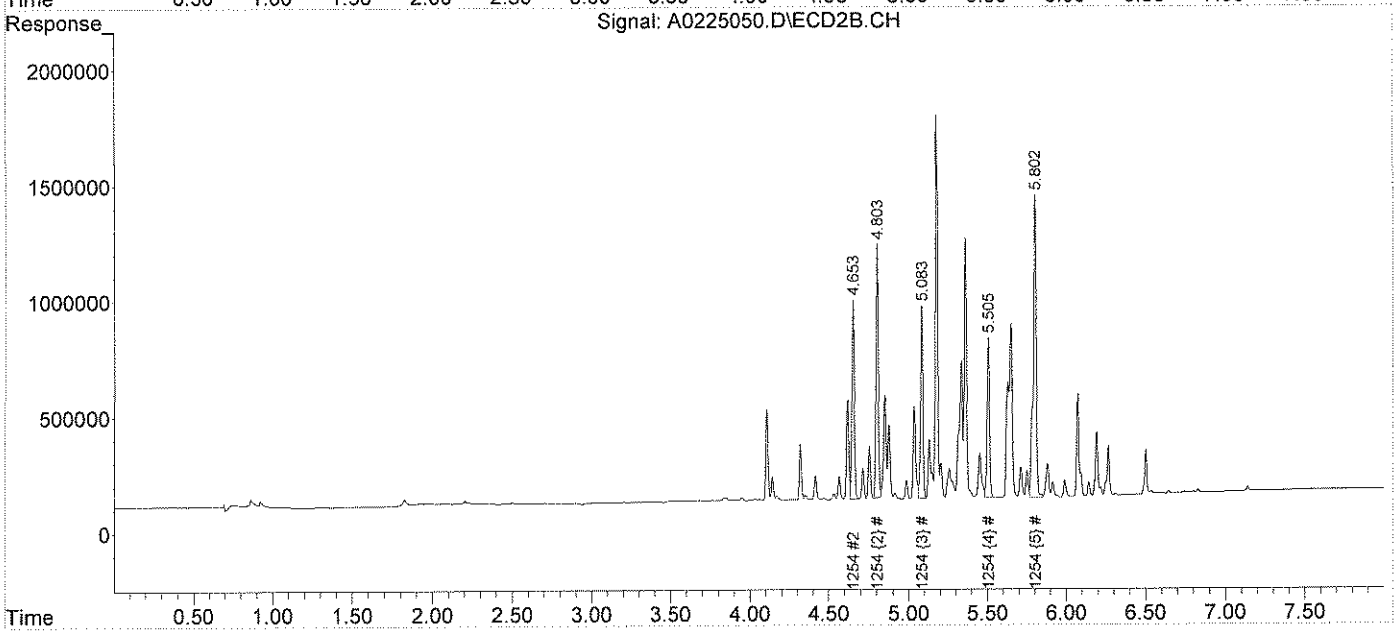
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022511\
Data File : A0225050.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Feb 2011 7:06 am
Operator : JMB
Sample : 11B0504-11@50000 Inst : HP G1530A
Misc :
ALS Vial : 50 Sample Multiplier: 1

Integration File signal 1: 54-F.E
Integration File signal 2: 54-B.E
Quant Time: Feb 26 07:22:53 2011
DataAcq Meth:H2PEST02.M
Quant Method : C:\msdchem\1\METHODS\PCB METHODS\H54022111.M
Quant Title : 1254 02/08/11 09/28/10
QLast Update : Tue Feb 22 09:06:17 2011
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



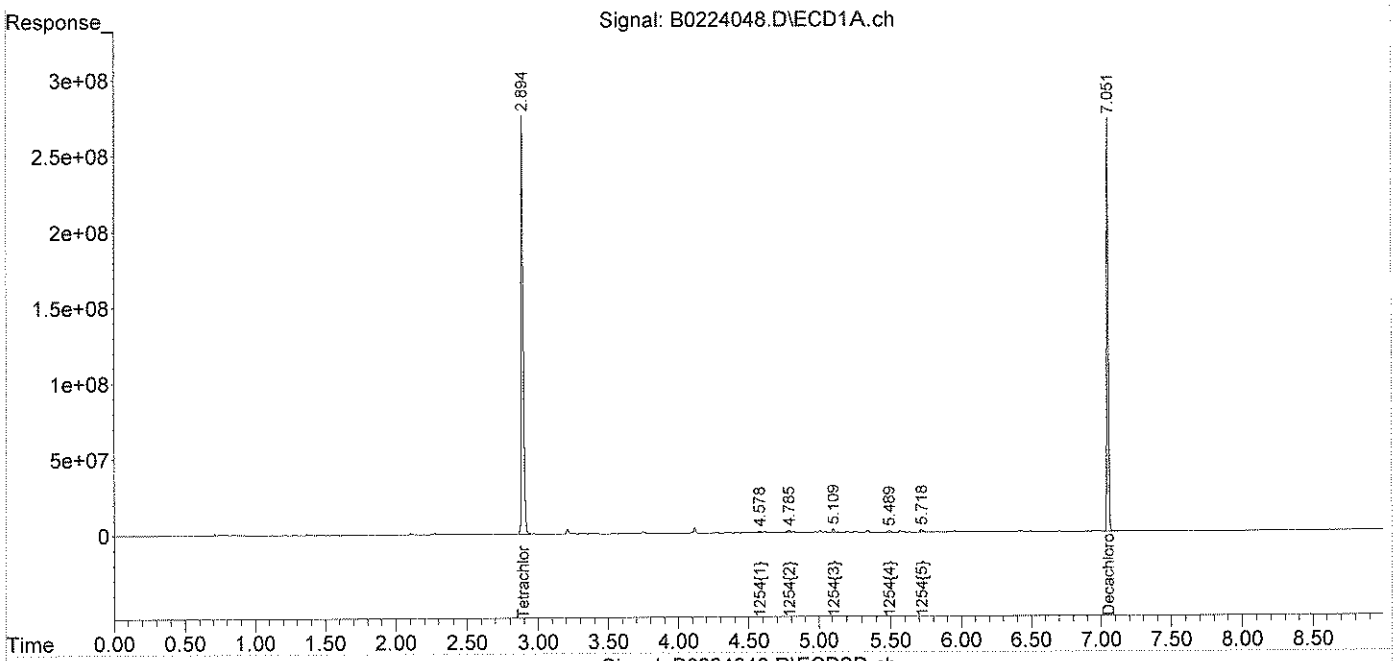


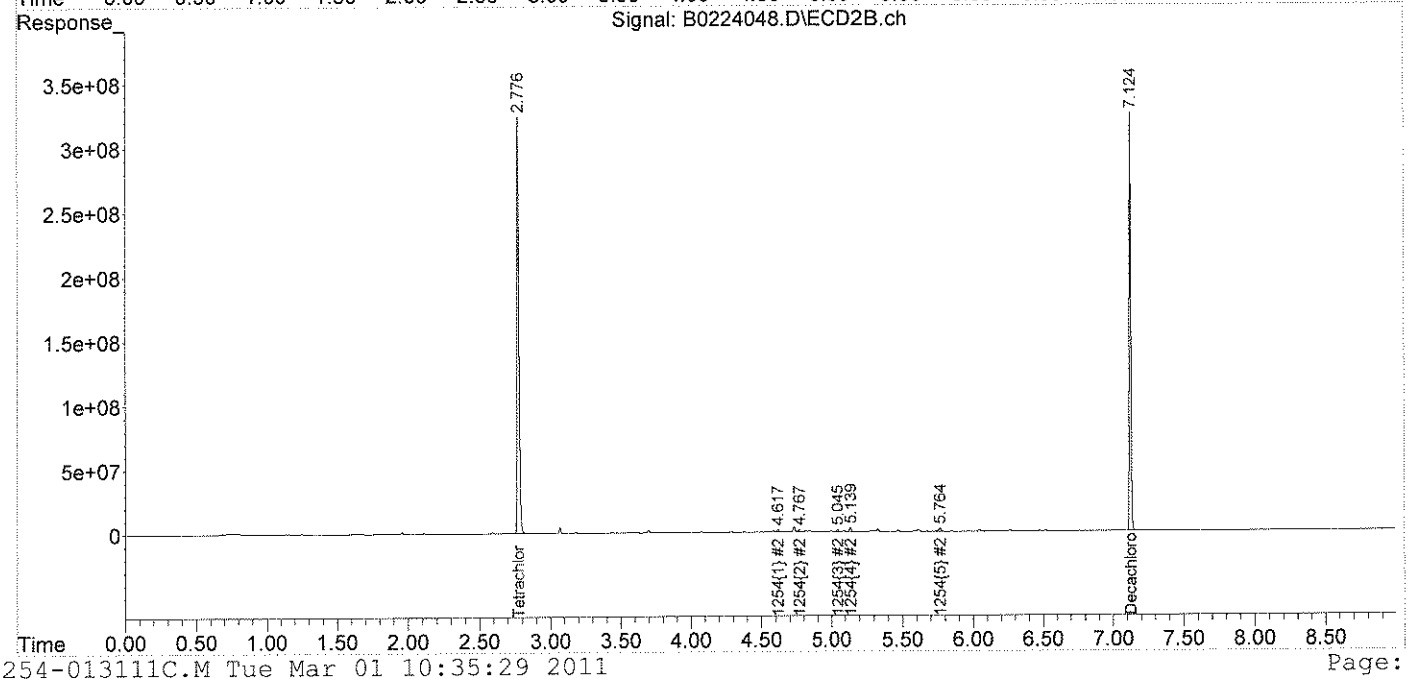
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224048.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 24 Feb 2011 9:59 pm
Operator : JMB
Sample : 11B0504-12 Inst : ECD 2A
Misc :
ALS Vial : 48 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 25 04:44:00 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



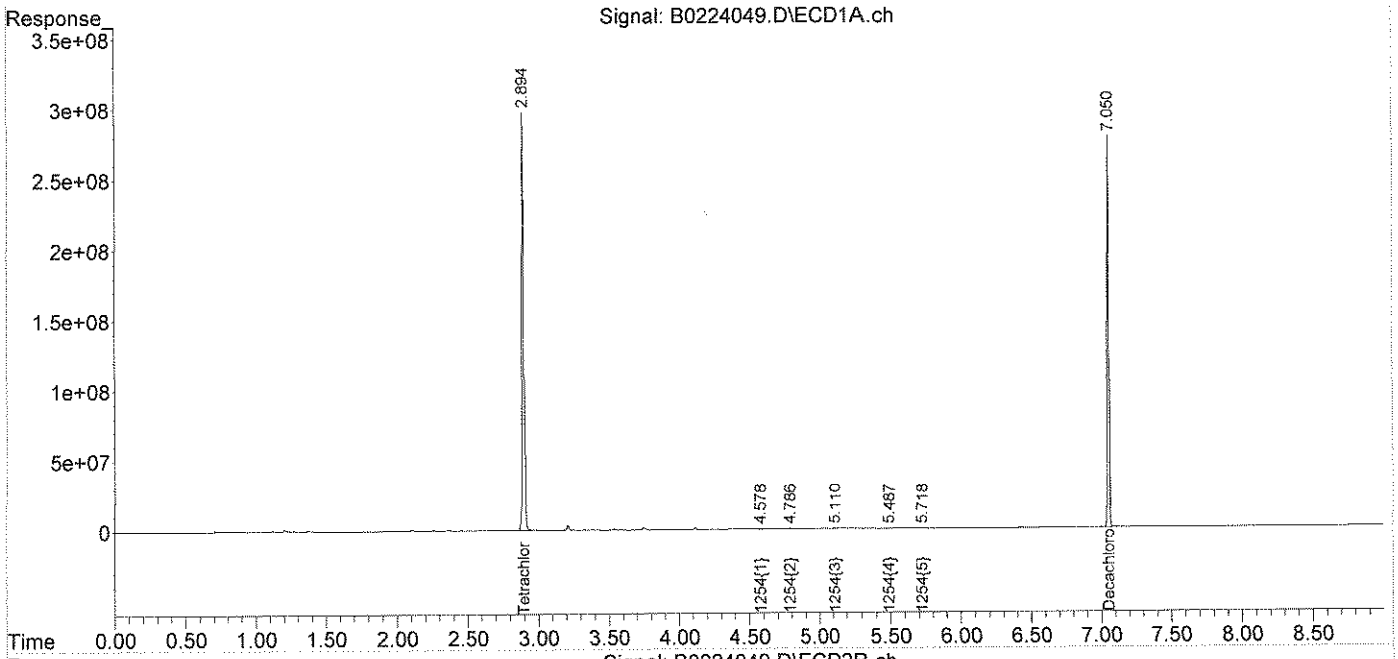


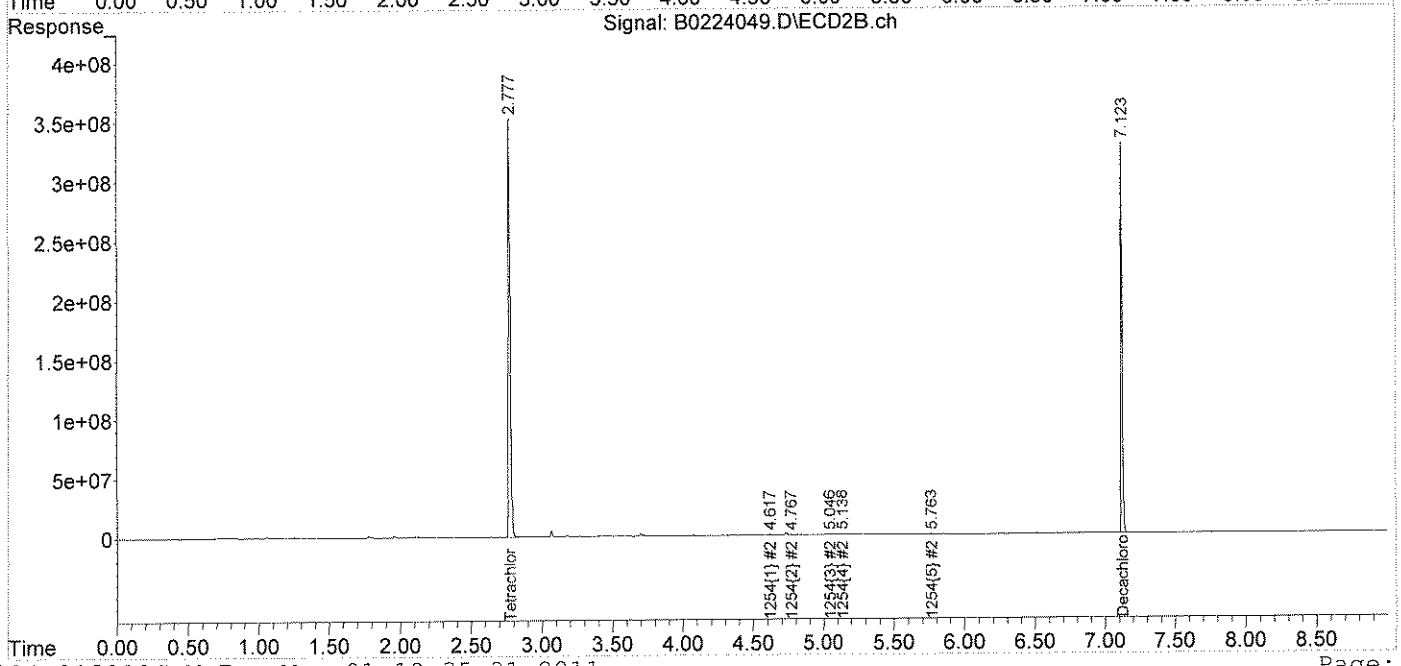
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224049.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 24 Feb 2011 10:12 pm
Operator : JMB
Sample : 11B0504-13 Inst : ECD 2A
Misc :
ALS Vial : 49 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 25 04:44:02 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



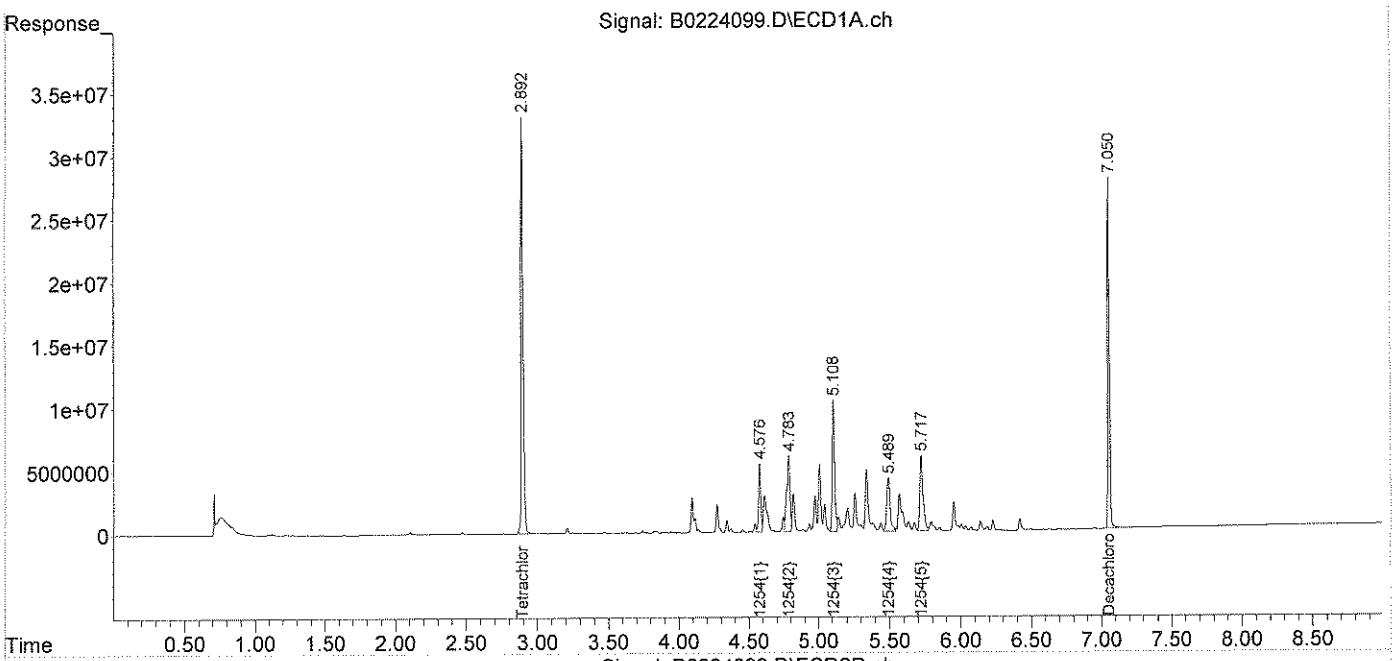


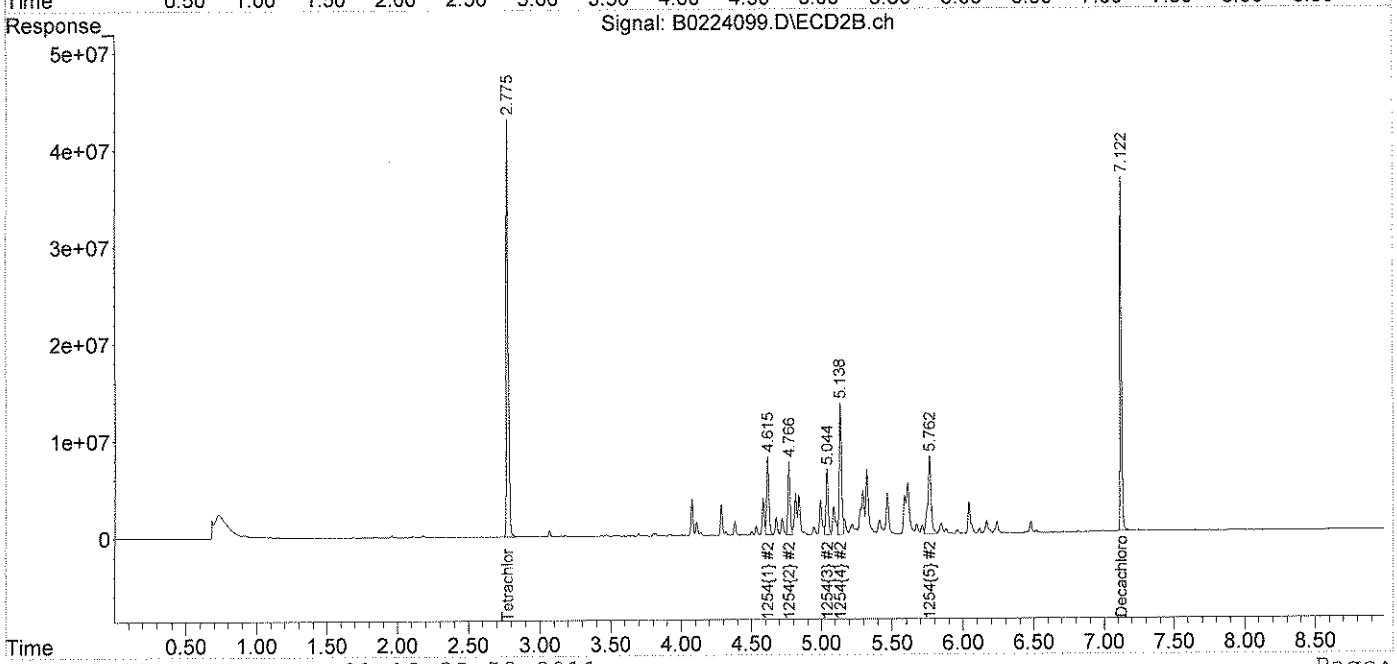
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224099.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 26 Feb 2011 6:06 am
Operator : JMB
Sample : 11B0504-14RE1@10X Inst : ECD 2A
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 07:11:07 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



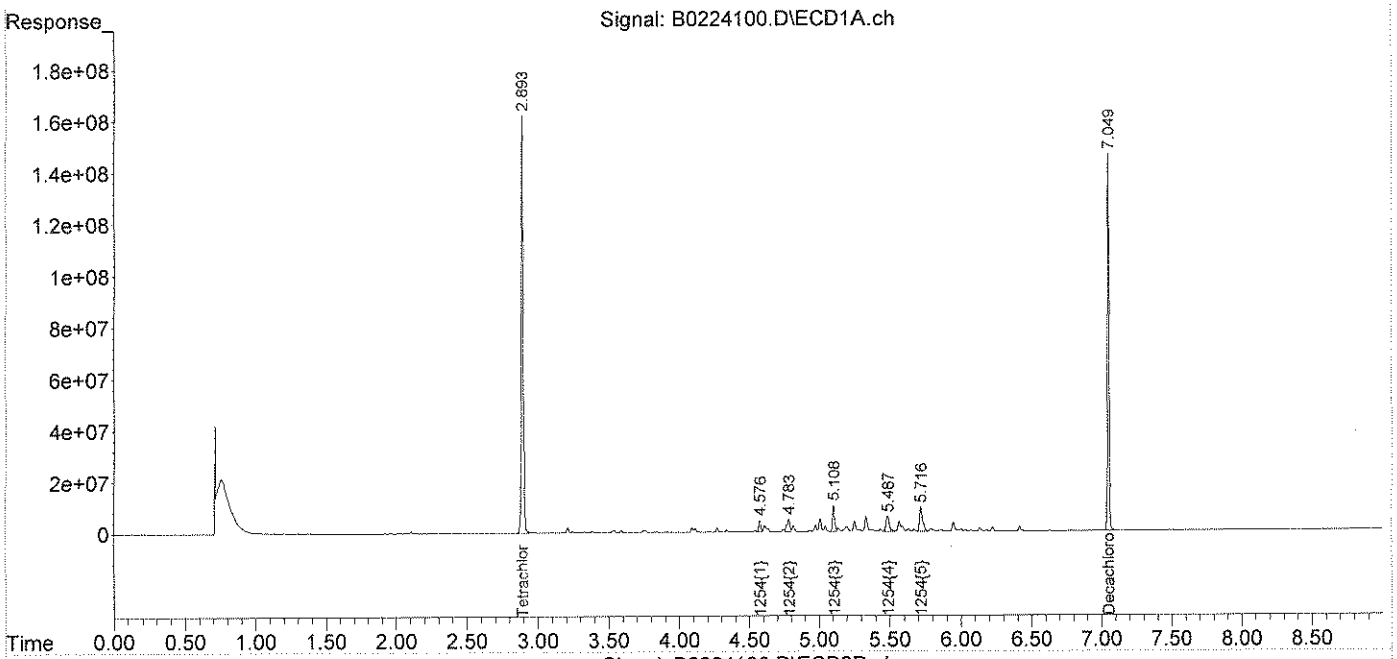


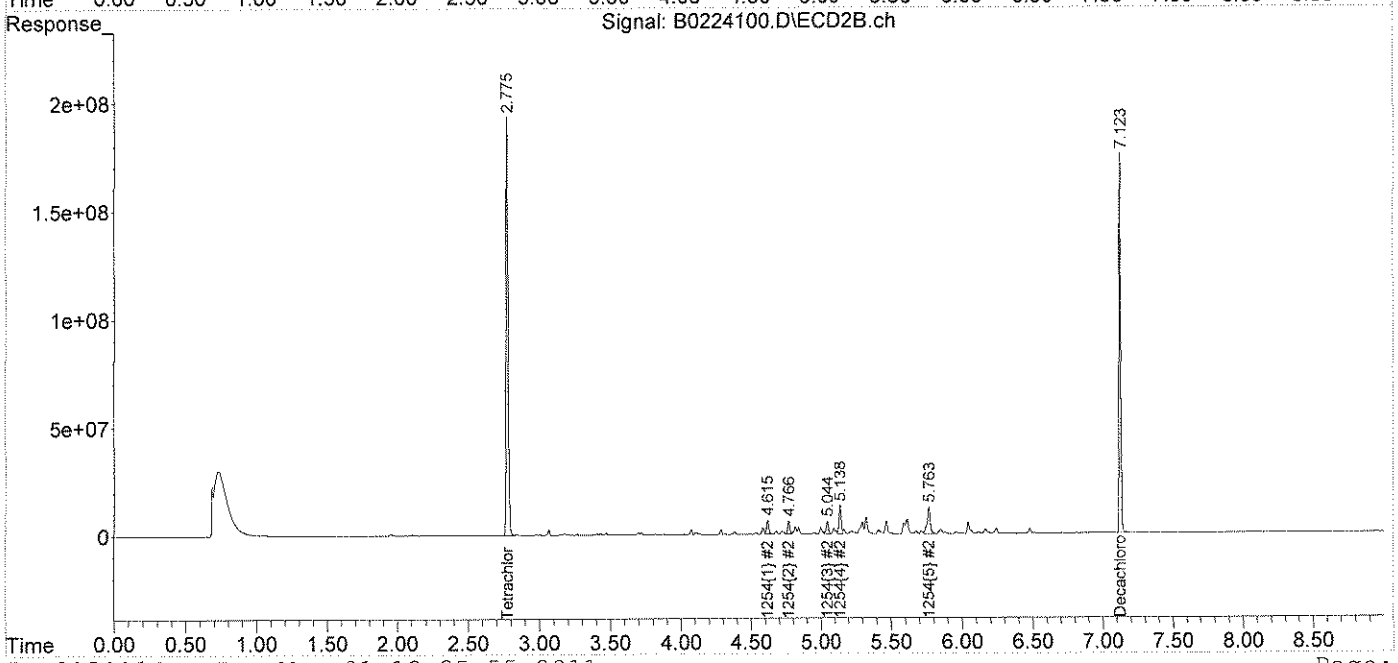
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224100.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 26 Feb 2011 6:20 am
Operator : JMB
Sample : 11B0504-15RE1@2X Inst : ECD 2A
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 07:11:10 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



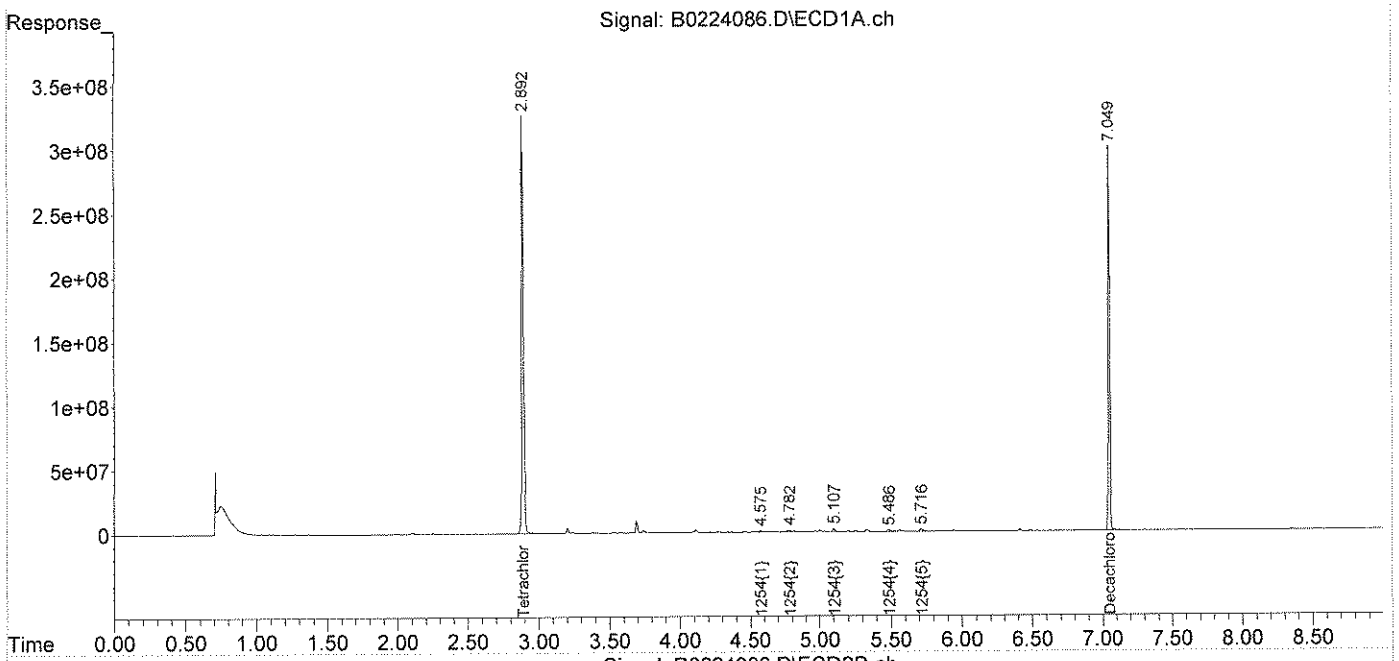


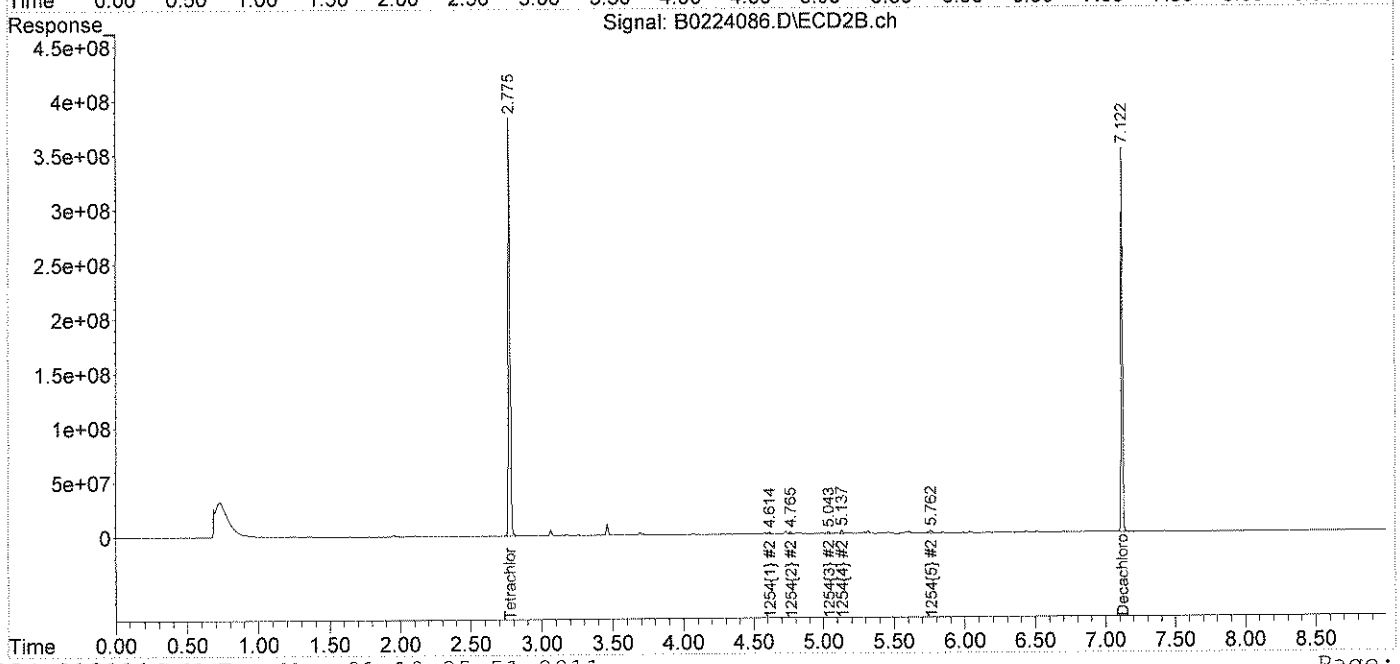
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224086.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 7:11 pm
Operator : JMB
Sample : 11B0504-16RE1 Inst : ECD 2A
Misc :
ALS Vial : 86 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 04:43:17 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



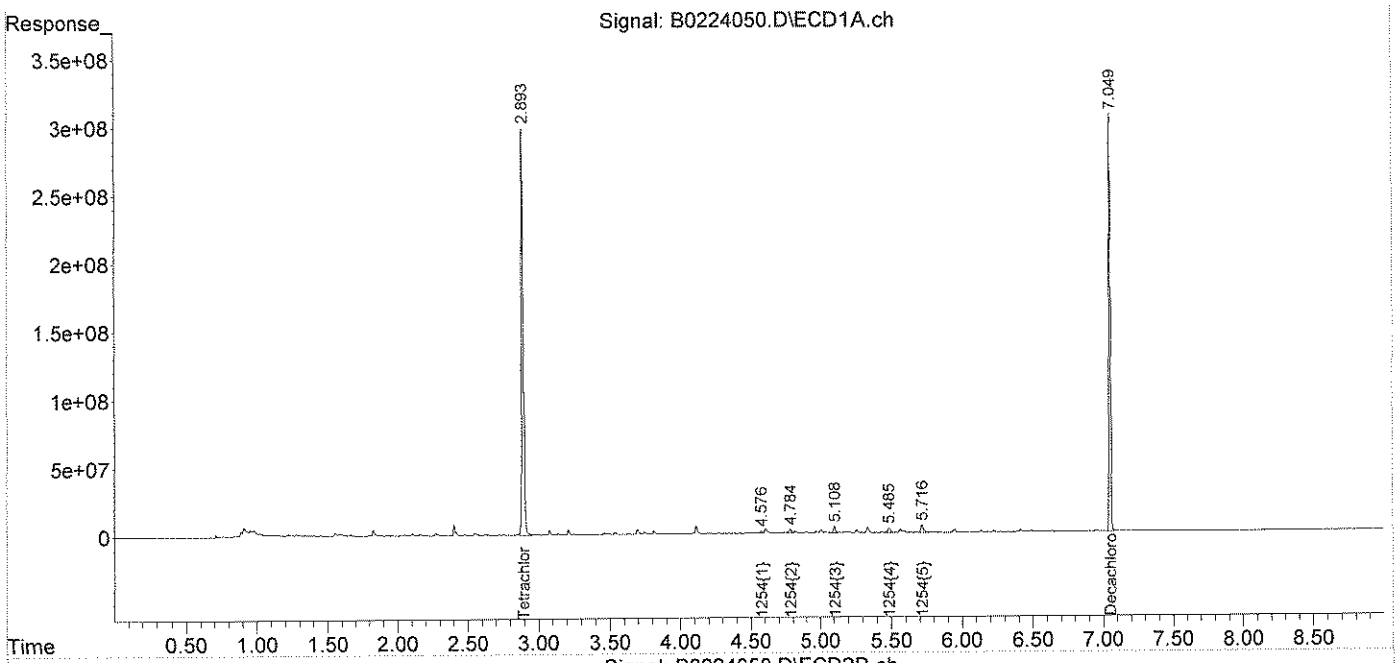


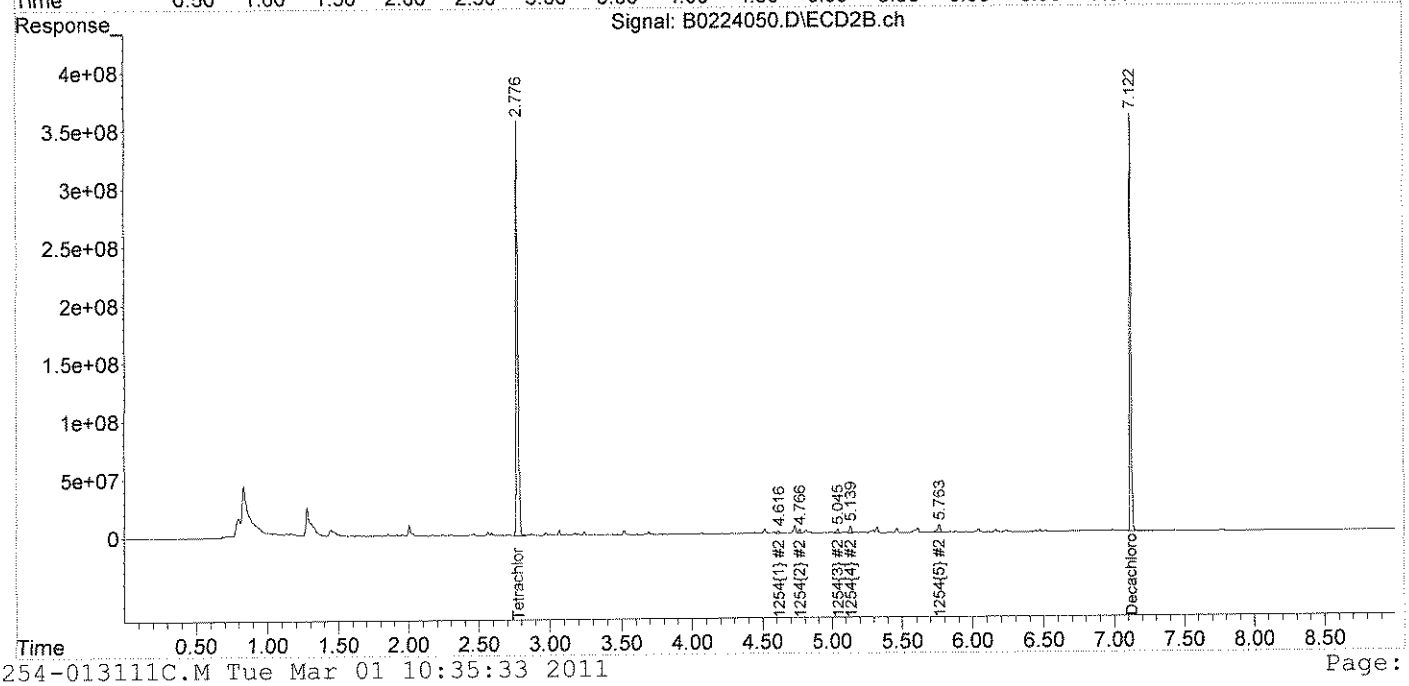
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224050.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 24 Feb 2011 10:26 pm
Operator : JMB
Sample : 11B0504-17 Inst : ECD 2A
Misc :
ALS Vial : 50 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 25 04:44:04 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



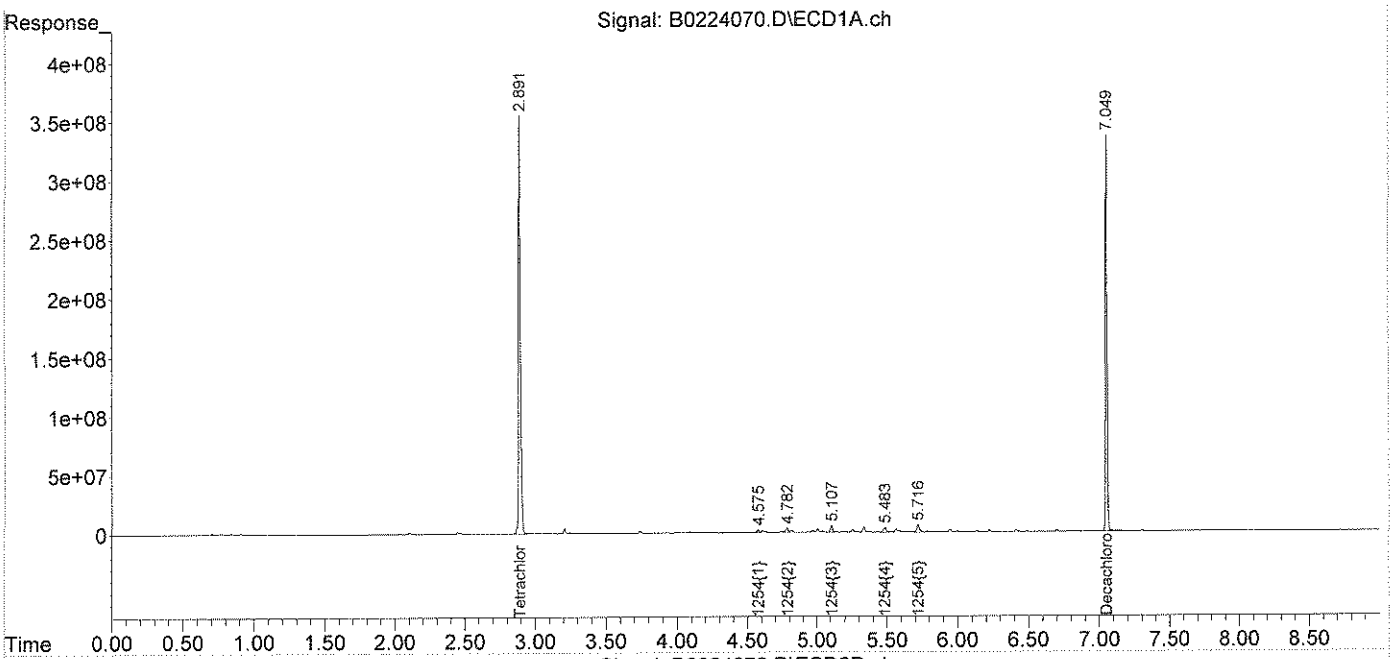


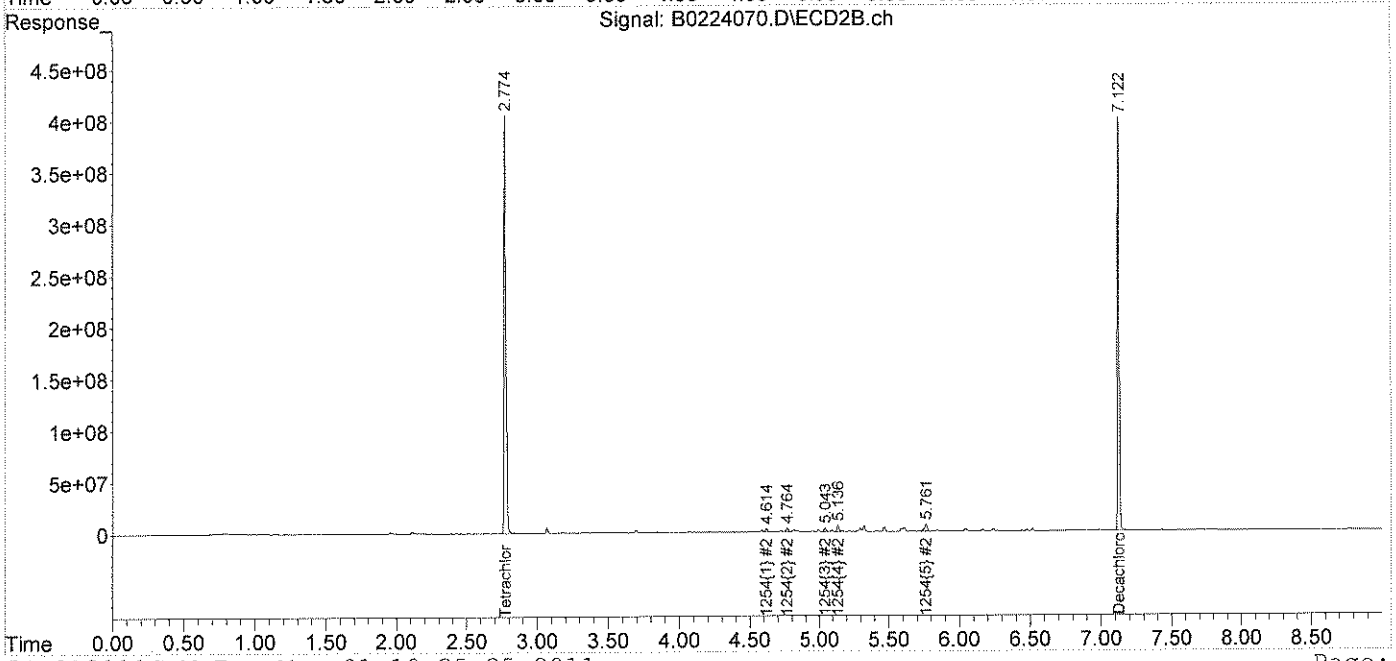
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\022411\
Data File : B0224070.D
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 25 Feb 2011 3:33 pm
Operator : JMB
Sample : 11B0504-18@TBA Inst : ECD 2A
Misc :
ALS Vial : 70 Sample Multiplier: 1

Integration File signal 1: 1254-Front.E
Integration File signal 2: 1254-Back.E
Quant Time: Feb 26 04:42:57 2011
Quant Method : C:\msdchem\1\METHODS\2-1254-013111C.M
Quant Title : 1254 01/31/11
QLast Update : Tue Feb 01 11:09:22 2011
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 28, 2011

Steven Murdzia
Yale University
135 College Street, Suite 100
New Haven, CT 06510

Project Location: KGL
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 11C0680

Enclosed are results of analyses for samples received by the laboratory on March 23, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Yale University
135 College Street, Suite 100
New Haven, CT 06510
ATTN: Steven Murdzia

REPORT DATE: 3/28/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11C0680

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: KGL

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
102	11C0680-01	Wipe		SW-846 8082	
101	11C0680-02	Wipe		SW-846 8082	
216	11C0680-03	Wipe		SW-846 8082	
238	11C0680-04	Wipe		SW-846 8082	
312	11C0680-05	Wipe		SW-846 8082	
312B	11C0680-06	Wipe		SW-846 8082	
321D	11C0680-07	Wipe		SW-846 8082	
Wipe Blank	11C0680-08	Wipe		SW-846 8082	
203-C-Plaster	11C0680-09	Product/Solid		SW-846 8082	
203-D-Plaster	11C0680-10	Product/Solid		SW-846 8082	
208A-E	11C0680-11	Product/Solid		SW-846 8082	
102EX	11C0680-12	Product/Solid		SW-846 8082	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082

Qualifications:

Matrix spike and spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016, Aroclor-1016 [2C], Aroclor-1260, Aroclor-1260 [2C]

B027778-MS1, B027778-MSD1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 102
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-01

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:02	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:02	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:02	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:02	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:02	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:02	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:02	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:02	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:02	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	83.0	30-150		3/24/11 12:02
Decachlorobiphenyl [2]	85.1	30-150		3/24/11 12:02
Tetrachloro-m-xylene [1]	73.0	30-150		3/24/11 12:02
Tetrachloro-m-xylene [2]	77.7	30-150		3/24/11 12:02

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 101
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-02

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:18	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:18	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:18	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:18	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:18	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:18	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:18	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:18	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:18	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	90.8	30-150		3/24/11 12:18
Decachlorobiphenyl [2]	93.3	30-150		3/24/11 12:18
Tetrachloro-m-xylene [1]	81.9	30-150		3/24/11 12:18
Tetrachloro-m-xylene [2]	86.7	30-150		3/24/11 12:18

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 216
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-03

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:31	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:31	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:31	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:31	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:31	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:31	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:31	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:31	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:31	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	76.5	30-150		3/24/11 12:31
Decachlorobiphenyl [2]	86.2	30-150		3/24/11 12:31
Tetrachloro-m-xylene [1]	80.6	30-150		3/24/11 12:31
Tetrachloro-m-xylene [2]	83.6	30-150		3/24/11 12:31

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 238
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-04

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:47	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:47	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:47	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:47	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:47	PJG
Aroclor-1254 [1]	0.68	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:47	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:47	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:47	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 12:47	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	81.4	30-150		3/24/11 12:47
Decachlorobiphenyl [2]	84.0	30-150		3/24/11 12:47
Tetrachloro-m-xylene [1]	78.2	30-150		3/24/11 12:47
Tetrachloro-m-xylene [2]	82.0	30-150		3/24/11 12:47

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 312
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-05

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:02	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:02	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:02	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:02	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:02	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:02	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:02	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:02	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:02	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	86.6	30-150		3/24/11 13:02
Decachlorobiphenyl [2]	89.4	30-150		3/24/11 13:02
Tetrachloro-m-xylene [1]	78.0	30-150		3/24/11 13:02
Tetrachloro-m-xylene [2]	82.2	30-150		3/24/11 13:02

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 312B
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-06

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:18	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:18	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:18	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:18	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:18	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:18	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:18	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:18	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:18	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	81.1	30-150		3/24/11 13:18
Decachlorobiphenyl [2]	84.2	30-150		3/24/11 13:18
Tetrachloro-m-xylene [1]	80.7	30-150		3/24/11 13:18
Tetrachloro-m-xylene [2]	85.1	30-150		3/24/11 13:18

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 321D
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-07

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:33	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:33	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:33	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:33	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:33	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:33	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:33	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:33	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:33	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	78.7	30-150		3/24/11 13:33
Decachlorobiphenyl [2]	81.4	30-150		3/24/11 13:33
Tetrachloro-m-xylene [1]	76.3	30-150		3/24/11 13:33
Tetrachloro-m-xylene [2]	81.4	30-150		3/24/11 13:33

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: Wipe Blank
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-08

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:49	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:49	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:49	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:49	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:49	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:49	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:49	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:49	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082	3/23/11	3/24/11 13:49	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	74.8	30-150		3/24/11 13:49
Decachlorobiphenyl [2]	77.9	30-150		3/24/11 13:49
Tetrachloro-m-xylene [1]	73.9	30-150		3/24/11 13:49
Tetrachloro-m-xylene [2]	78.0	30-150		3/24/11 13:49

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 203-C-Plaster
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 11:53	PJG
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 11:53	PJG
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 11:53	PJG
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 11:53	PJG
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 11:53	PJG
Aroclor-1254 [2]	0.81	0.095	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 11:53	PJG
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 11:53	PJG
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 11:53	PJG
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 11:53	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	104	30-150		3/28/11 11:53
Decachlorobiphenyl [2]	110	30-150		3/28/11 11:53
Tetrachloro-m-xylene [1]	96.2	30-150		3/28/11 11:53
Tetrachloro-m-xylene [2]	98.1	30-150		3/28/11 11:53

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 203-D-Plaster | Sampled: 3/22/2011 00:00

Sample ID: 11C0680-10

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:08	PJG
Aroclor-1221 [1]	ND	0.091	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:08	PJG
Aroclor-1232 [1]	ND	0.091	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:08	PJG
Aroclor-1242 [1]	ND	0.091	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:08	PJG
Aroclor-1248 [1]	ND	0.091	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:08	PJG
Aroclor-1254 [2]	0.32	0.091	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:08	PJG
Aroclor-1260 [1]	ND	0.091	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:08	PJG
Aroclor-1262 [1]	ND	0.091	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:08	PJG
Aroclor-1268 [1]	ND	0.091	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:08	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		3/28/11 12:08
Decachlorobiphenyl [2]	108	30-150		3/28/11 12:08
Tetrachloro-m-xylene [1]	95.0	30-150		3/28/11 12:08
Tetrachloro-m-xylene [2]	101	30-150		3/28/11 12:08

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 208A-E
Sampled: 3/22/2011 00:00

Sample ID: 11C0680-11

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:22	PJG
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:22	PJG
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:22	PJG
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:22	PJG
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:22	PJG
Aroclor-1254 [2]	0.67	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:22	PJG
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:22	PJG
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:22	PJG
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 12:22	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		3/28/11 12:22
Decachlorobiphenyl [2]	104	30-150		3/28/11 12:22
Tetrachloro-m-xylene [1]	79.6	30-150		3/28/11 12:22
Tetrachloro-m-xylene [2]	82.0	30-150		3/28/11 12:22

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11C0680

Date Received: 3/23/2011

Field Sample #: 102EX | Sampled: 3/22/2011 00:00

Sample ID: 11C0680-12

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 13:46	PJG
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 13:46	PJG
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 13:46	PJG
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 13:46	PJG
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 13:46	PJG
Aroclor-1254 [2]	1.1	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 13:46	PJG
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 13:46	PJG
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 13:46	PJG
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	3/25/11	3/28/11 13:46	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	129	30-150		3/28/11 13:46
Decachlorobiphenyl [2]	111	30-150		3/28/11 13:46
Tetrachloro-m-xylene [1]	83.4	30-150		3/28/11 13:46
Tetrachloro-m-xylene [2]	89.5	30-150		3/28/11 13:46

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11C0680-09 [203-C-Plaster]	B027778	2.10	10.0	03/25/11
11C0680-10 [203-D-Plaster]	B027778	2.20	10.0	03/25/11
11C0680-11 [208A-E]	B027778	2.00	10.0	03/25/11
11C0680-12 [102EX]	B027778	2.00	10.0	03/25/11

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
11C0680-01 [102]	B027763	1.00	10.0	03/23/11
11C0680-02 [101]	B027763	1.00	10.0	03/23/11
11C0680-03 [216]	B027763	1.00	10.0	03/23/11
11C0680-04 [238]	B027763	1.00	10.0	03/23/11
11C0680-05 [312]	B027763	1.00	10.0	03/23/11
11C0680-06 [312B]	B027763	1.00	10.0	03/23/11
11C0680-07 [321D]	B027763	1.00	10.0	03/23/11
11C0680-08 [Wipe Blank]	B027763	1.00	10.0	03/23/11

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B027763 - SW-846 3540C										
Blank (B027763-BLK1)				Prepared: 03/23/11 Analyzed: 03/24/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.74*		µg/Wipe	2.00		87.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.77*		µg/Wipe	2.00		88.3	30-150			
Surrogate: Tetrachloro-m-xylene	*1.67*		µg/Wipe	2.00		83.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.74*		µg/Wipe	2.00		86.8	30-150			
LCS (B027763-BS1)				Prepared: 03/23/11 Analyzed: 03/24/11						
Aroclor-1016	0.47	0.20	µg/Wipe	0.500		93.8	40-140			
Aroclor-1016 [2C]	0.47	0.20	µg/Wipe	0.500		94.9	40-140			
Aroclor-1260	0.44	0.20	µg/Wipe	0.500		87.0	40-140			
Aroclor-1260 [2C]	0.45	0.20	µg/Wipe	0.500		89.1	40-140			
Surrogate: Decachlorobiphenyl	*1.77*		µg/Wipe	2.00		88.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.79*		µg/Wipe	2.00		89.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.59*		µg/Wipe	2.00		79.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.67*		µg/Wipe	2.00		83.4	30-150			
LCS Dup (B027763-BSD1)				Prepared: 03/23/11 Analyzed: 03/24/11						
Aroclor-1016	0.45	0.20	µg/Wipe	0.500		90.0	40-140	4.15	30	
Aroclor-1016 [2C]	0.46	0.20	µg/Wipe	0.500		91.4	40-140	3.75	30	
Aroclor-1260	0.43	0.20	µg/Wipe	0.500		86.0	40-140	1.17	30	
Aroclor-1260 [2C]	0.44	0.20	µg/Wipe	0.500		87.7	40-140	1.55	30	
Surrogate: Decachlorobiphenyl	*1.73*		µg/Wipe	2.00		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.77*		µg/Wipe	2.00		88.4	30-150			
Surrogate: Tetrachloro-m-xylene	*1.50*		µg/Wipe	2.00		75.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.59*		µg/Wipe	2.00		79.6	30-150			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B027778 - SW-846 3540C										
Blank (B027778-BLK1)				Prepared: 03/25/11 Analyzed: 03/28/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.826*		mg/Kg	1.00		82.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.02*		mg/Kg	1.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.964*		mg/Kg	1.00		96.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.956*		mg/Kg	1.00		95.6	30-150			
LCS (B027778-BS1)				Prepared: 03/25/11 Analyzed: 03/28/11						
Aroclor-1016	0.26	0.10	mg/Kg	0.250		103	40-140			
Aroclor-1016 [2C]	0.26	0.10	mg/Kg	0.250		104	40-140			
Aroclor-1260	0.24	0.10	mg/Kg	0.250		96.5	40-140			
Aroclor-1260 [2C]	0.26	0.10	mg/Kg	0.250		103	40-140			
Surrogate: Decachlorobiphenyl	*0.874*		mg/Kg	1.00		87.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.997*		mg/Kg	1.00		99.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.902*		mg/Kg	1.00		90.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.913*		mg/Kg	1.00		91.3	30-150			
LCS Dup (B027778-BSD1)				Prepared: 03/25/11 Analyzed: 03/28/11						
Aroclor-1016	0.27	0.10	mg/Kg	0.250		107	40-140	4.05	30	
Aroclor-1016 [2C]	0.27	0.10	mg/Kg	0.250		106	40-140	2.01	30	
Aroclor-1260	0.25	0.10	mg/Kg	0.250		99.3	40-140	2.81	30	
Aroclor-1260 [2C]	0.26	0.10	mg/Kg	0.250		106	40-140	2.40	30	
Surrogate: Decachlorobiphenyl	*0.774*		mg/Kg	1.00		77.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.00*		mg/Kg	1.00		100	30-150			
Surrogate: Tetrachloro-m-xylene	*0.942*		mg/Kg	1.00		94.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.947*		mg/Kg	1.00		94.7	30-150			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B027778 - SW-846 3540C											
Matrix Spike (B027778-MS1)		**Source: 11C0680-12**		Prepared: 03/25/11 Analyzed: 03/28/11							
Aroclor-1016	0.76	0.10	mg/Kg	0.250	0.0	**302**	*	40-140			MS-21
Aroclor-1016 [2C]	0.80	0.10	mg/Kg	0.250	0.0	**319**	*	40-140			MS-21
Aroclor-1260	0.70	0.10	mg/Kg	0.250	0.0	**280**	*	40-140			MS-21
Aroclor-1260 [2C]	0.72	0.10	mg/Kg	0.250	0.0	**287**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.681*		mg/Kg	1.00		68.1		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.978*		mg/Kg	1.00		97.8		30-150			
Surrogate: Tetrachloro-m-xylene	*0.930*		mg/Kg	1.00		93.0		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.933*		mg/Kg	1.00		93.3		30-150			
Matrix Spike Dup (B027778-MSD1)		**Source: 11C0680-12**		Prepared: 03/25/11 Analyzed: 03/28/11							
Aroclor-1016	0.77	0.10	mg/Kg	0.250	0.0	**306**	*	40-140	1.34	50	MS-21
Aroclor-1016 [2C]	0.82	0.10	mg/Kg	0.250	0.0	**327**	*	40-140	2.45	50	MS-21
Aroclor-1260	0.68	0.10	mg/Kg	0.250	0.0	**272**	*	40-140	3.15	50	MS-21
Aroclor-1260 [2C]	0.74	0.10	mg/Kg	0.250	0.0	**297**	*	40-140	3.48	50	MS-21
Surrogate: Decachlorobiphenyl	*0.710*		mg/Kg	1.00		71.0		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.986*		mg/Kg	1.00		98.6		30-150			
Surrogate: Tetrachloro-m-xylene	*0.921*		mg/Kg	1.00		92.1		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.926*		mg/Kg	1.00		92.6		30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
MS-21	Matrix spike and spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082 in Product/Solid	
Aroclor-1016	CT,NH,NY
Aroclor-1016 [2C]	CT,NH,NY
Aroclor-1221	CT,NH,NY
Aroclor-1221 [2C]	CT,NH,NY
Aroclor-1232	CT,NH,NY
Aroclor-1232 [2C]	CT,NH,NY
Aroclor-1242	CT,NH,NY
Aroclor-1242 [2C]	CT,NH,NY
Aroclor-1248	CT,NH,NY
Aroclor-1248 [2C]	CT,NH,NY
Aroclor-1254	CT,NH,NY
Aroclor-1254 [2C]	CT,NH,NY
Aroclor-1260	CT,NH,NY
Aroclor-1260 [2C]	CT,NH,NY

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2011
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2011
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

11C0680

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 2

Company Name: YALE EHS
Address: 135 COLLEGE ST, STE 100
NEW HAVEN, CT 06510
Attention: STEVE MURDZIA
Project Location: KGL
Sampled By: S. MURDZIA

Telephone: 203 410 5877
Project #
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ☒ WEBSITE
Fax #
Email: Steven.Murdzia@yale.edu
Format: ☒ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection: Beginning Date/Time	Collection: Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB EPA 8082	SOXHLET 3540C	EXTRACTION
-01	102 / WIPE 100cm²		3/22/11				G	X		
-02	101 / WIPE 100cm²							X		
-03	216 / WIPE 100cm²							X		
-04	238/WIPE 100cm²							X		
-05	312/WIPE / 100cm²							X		
-06	312B/WPE/ 100cm²							X		
-07	321D/WPE/ 100cm²							X		
-08	WIPE BLANK							X		
-09	203-C - PLASTER							X		
-10	203-D - PLASTER							X		

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 3/23/11 755
Received by: (signature)	Date/Time: 3/23/11 0755
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other FRIDAY

RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Analytical Certification Form Required
○ RCP Analysis Certification Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 2 of 2

11C0680

Company Name: YALE EHS
Address: 135 COLL.
Attention: STEVE MULDZIA
Project Location: KGL
Sampled By: S. MULDZIA

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project #
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	X PCB EPA 8082	SOX HLET 3540C	EXTRACTION
-11	208A-E / CMU		3/22/11				6			
-12	102 EX / BROWNSTONE		3/22				1			

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 3/23/11 755
Received by: (signature)	Date/Time: 3/23/11 0855
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other FRIDAY
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Analytical Certification Form Required
○ RCP Analysis Certification Form Required
○ MA State DW Form Required PWSID # _____

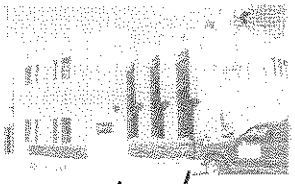
NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY



Sample Receipt Checklist

CLIENT NAME: Yale EHS RECEIVED BY: CEC DATE: 3/23/11

1) Was the chain(s) of custody relinquished and signed? Yes No

2) Does the chain agree with the samples? Yes No

If not, explain:

3) Are all the samples in good condition? Yes No

If not, explain:

4) How were the samples received:

On Ice ☐ Direct from Sampling ☐ Ambient ☑ In Cooler(s) ☐

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank: _____ Temperature °C by Temp gun: 16.8°

5) Are there Dissolved samples for the lab to filter? Yes No

Who was notified _____ Date _____ Time _____

6) Are there any samples "On Hold"? Yes No Stored where:

7) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified _____ Date _____ Time _____

8) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature:

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	7
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below		SOC Kit	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Non-ConTest Container	
Flashpoint bottle		Other Small Glass Jar	5
Encore		PM 2.5 / PM 10	
Perchlorate Kit		PUF Cartridge	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No N/A _____

Do all samples have the proper Base pH: Yes No N/A _____

March 2011

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 8, 2011

Steven Murdzia
Yale University
135 College Street, Suite 100
New Haven, CT 06510

Project Location: KGL CMU Block Wall
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 11D0102

Enclosed are results of analyses for samples received by the laboratory on April 5, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Yale University
135 College Street, Suite 100
New Haven, CT 06510
ATTN: Steven Murdzia

REPORT DATE: 4/8/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11D0102

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: KGL CMU Block Wall

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL 111 - 12 CMU	11D0102-01	Concrete		SW-846 8082	
KGL 111 - 15 CMU	11D0102-02	Concrete		SW-846 8082	
KGL 335 - 12 CMU	11D0102-03	Concrete		SW-846 8082	
KGL 335 - 15 CMU	11D0102-04	Concrete		SW-846 8082	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL CMU Block Wall | Sample Description: | Work Order: 11D0102

Date Received: 4/5/2011

Field Sample #: KGL 111 - 12 CMU | Sampled: 4/4/2011 00:00

Sample ID: 11D0102-01

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.48	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 16:55	PJG
Aroclor-1221 [1]	ND	0.48	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 16:55	PJG
Aroclor-1232 [1]	ND	0.48	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 16:55	PJG
Aroclor-1242 [1]	ND	0.48	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 16:55	PJG
Aroclor-1248 [2]	3.6	0.48	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 16:55	PJG
Aroclor-1254 [2]	2.8	0.48	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 16:55	PJG
Aroclor-1260 [1]	ND	0.48	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 16:55	PJG
Aroclor-1262 [1]	ND	0.48	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 16:55	PJG
Aroclor-1268 [1]	ND	0.48	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 16:55	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	88.3	30-150		4/8/11 16:55
Decachlorobiphenyl [2]	103	30-150		4/8/11 16:55
Tetrachloro-m-xylene [1]	88.6	30-150		4/8/11 16:55
Tetrachloro-m-xylene [2]	92.9	30-150		4/8/11 16:55

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL CMU Block Wall | Sample Description: | Work Order: 11D0102

Date Received: 4/5/2011

Field Sample #: KGL 111 - 15 CMU | Sampled: 4/4/2011 00:00

Sample ID: 11D0102-02

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.45	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:09	PJG
Aroclor-1221 [1]	ND	0.45	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:09	PJG
Aroclor-1232 [1]	ND	0.45	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:09	PJG
Aroclor-1242 [1]	ND	0.45	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:09	PJG
Aroclor-1248 [1]	1.9	0.45	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:09	PJG
Aroclor-1254 [2]	1.9	0.45	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:09	PJG
Aroclor-1260 [1]	ND	0.45	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:09	PJG
Aroclor-1262 [1]	ND	0.45	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:09	PJG
Aroclor-1268 [1]	ND	0.45	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:09	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.1	30-150		4/8/11 17:09
Decachlorobiphenyl [2]	109	30-150		4/8/11 17:09
Tetrachloro-m-xylene [1]	93.2	30-150		4/8/11 17:09
Tetrachloro-m-xylene [2]	97.3	30-150		4/8/11 17:09

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL CMU Block Wall | Sample Description: | Work Order: 11D0102

Date Received: 4/5/2011

Field Sample #: KGL 335 - 12 CMU | Sampled: 4/4/2011 00:00

Sample ID: 11D0102-03

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:23	PJG
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:23	PJG
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:23	PJG
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:23	PJG
Aroclor-1248 [1]	2.5	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:23	PJG
Aroclor-1254 [2]	2.3	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:23	PJG
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:23	PJG
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:23	PJG
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:23	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	85.2	30-150		4/8/11 17:23
Decachlorobiphenyl [2]	99.4	30-150		4/8/11 17:23
Tetrachloro-m-xylene [1]	85.8	30-150		4/8/11 17:23
Tetrachloro-m-xylene [2]	89.6	30-150		4/8/11 17:23

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL CMU Block Wall | Sample Description: | Work Order: 11D0102

Date Received: 4/5/2011

Field Sample #: KGL 335 - 15 CMU | Sampled: 4/4/2011 00:00

Sample ID: 11D0102-04

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:38	PJG
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:38	PJG
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:38	PJG
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:38	PJG
Aroclor-1248 [2]	3.4	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:38	PJG
Aroclor-1254 [2]	2.9	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:38	PJG
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:38	PJG
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:38	PJG
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082	4/5/11	4/8/11 17:38	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	82.5	30-150		4/8/11 17:38
Decachlorobiphenyl [2]	95.7	30-150		4/8/11 17:38
Tetrachloro-m-xylene [1]	82.2	30-150		4/8/11 17:38
Tetrachloro-m-xylene [2]	85.7	30-150		4/8/11 17:38

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11D0102-01 [KGL 111 - 12 CMU]	B028464	2.10	10.0	04/05/11
11D0102-02 [KGL 111 - 15 CMU]	B028464	2.20	10.0	04/05/11
11D0102-03 [KGL 335 - 12 CMU]	B028464	2.00	10.0	04/05/11
11D0102-04 [KGL 335 - 15 CMU]	B028464	2.00	10.0	04/05/11

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B028464 - SW-846 3540C										
Blank (B028464-BLK1)				Prepared: 04/05/11 Analyzed: 04/07/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.880*		mg/Kg	1.00		88.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.908*		mg/Kg	1.00		90.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.833*		mg/Kg	1.00		83.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.831*		mg/Kg	1.00		83.1	30-150			
LCS (B028464-BS1)				Prepared: 04/05/11 Analyzed: 04/07/11						
Aroclor-1016	0.23	0.10	mg/Kg	0.250		90.5	40-140			
Aroclor-1016 [2C]	0.25	0.10	mg/Kg	0.250		98.2	40-140			
Aroclor-1260	0.22	0.10	mg/Kg	0.250		88.3	40-140			
Aroclor-1260 [2C]	0.23	0.10	mg/Kg	0.250		92.3	40-140			
Surrogate: Decachlorobiphenyl	*0.866*		mg/Kg	1.00		86.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.890*		mg/Kg	1.00		89.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.856*		mg/Kg	1.00		85.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.870*		mg/Kg	1.00		87.0	30-150			
LCS Dup (B028464-BSD1)				Prepared: 04/05/11 Analyzed: 04/07/11						
Aroclor-1016	0.23	0.10	mg/Kg	0.250		93.5	40-140	3.23	30	
Aroclor-1016 [2C]	0.26	0.10	mg/Kg	0.250		104	40-140	5.72	30	
Aroclor-1260	0.23	0.10	mg/Kg	0.250		92.3	40-140	4.43	30	
Aroclor-1260 [2C]	0.24	0.10	mg/Kg	0.250		97.6	40-140	5.55	30	
Surrogate: Decachlorobiphenyl	*0.903*		mg/Kg	1.00		90.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.927*		mg/Kg	1.00		92.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.886*		mg/Kg	1.00		88.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.896*		mg/Kg	1.00		89.6	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082 in Product/Solid	
Aroclor-1016	CT,NH,NY
Aroclor-1016 [2C]	CT,NH,NY
Aroclor-1221	CT,NH,NY
Aroclor-1221 [2C]	CT,NH,NY
Aroclor-1232	CT,NH,NY
Aroclor-1232 [2C]	CT,NH,NY
Aroclor-1242	CT,NH,NY
Aroclor-1242 [2C]	CT,NH,NY
Aroclor-1248	CT,NH,NY
Aroclor-1248 [2C]	CT,NH,NY
Aroclor-1254	CT,NH,NY
Aroclor-1254 [2C]	CT,NH,NY
Aroclor-1260	CT,NH,NY
Aroclor-1260 [2C]	CT,NH,NY

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2011
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page_____of_____

11D0102

Company Name: YALE UNIVERSITY
Address: 135 COLLEGE ST, STE 100
NEW HAVEN, CT 06510
Attention: STEVE MURDZIA
Project Location: KGL
Sampled By: S. MURDZIA

Telephone: 203 410 5877
Project #
Client PO#

DATA DELIVERY (check all that apply)
O FAX ✓EMAIL ✓WEBSITE
Fax #
Email: steven.murdzia@yale.edu
Format: ✓PDF O EXCEL O GIS
O OTHER
O "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
O yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB EPA 8082	3540C SOXHLET	EXTRACTION	# of Containers	** Preservation	***Container Code
-01	KGL 111 - 12 CMU	4/4/11	—	—			G	X					
02	KGL 111-15 CMU		—	—				X					
03	KGL 335-12 CMU		—	—				X					
04	KGL 335-15 CMU		—	—				X					

Dissolved Metals
O Field Filtered
O Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:
SAMPLES ARE FROM CMU BLOCK WALL
DUE FRIDAY 4/8/11 3 DAY MT

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 4/5/11 700
Received by: (signature) [signature]	Date/Time: 4/5/11 725 am
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☒ ~~10-Day~~
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
O MCP Form Required
O RCP Form Required
O MA State DW Form Required PWSID # _____

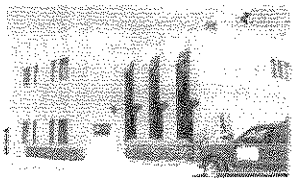
NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY



Sample Receipt Checklist

CLIENT NAME: Yale University RECEIVED BY: FW DATE: 4/5/11

1) Was the chain(s) of custody relinquished and signed? Yes No

2) Does the chain agree with the samples? Yes No

If not, explain:

3) Are all the samples in good condition? Yes No

If not, explain:

4) How were the samples received:

On Ice ☐ Direct from Sampling ☑ Ambient ☑ In Cooler(s) ☐

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank: — Temperature °C by Temp gun: —

5) Are there Dissolved samples for the lab to filter? Yes No

Who was notified _____ Date _____ Time _____

6) Are there any samples "On Hold"? Yes No Stored where:

7) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified FD Date 4/5/11 Time 09:20

8) Location where samples are stored: Login

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature:

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below		SOC Kit	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Non-ConTest Container	
Flashpoint bottle		Other Small clear glass	4
Encore		PM 2.5 / PM 10	
Perchlorate Kit		PUF Cartridge	

Laboratory Comments:

Time and Date Frozen:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Do all samples have the proper Acid pH: Yes No N/A _____

Do all samples have the proper Base pH: Yes No N/A _____

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

June 3, 2011

Steven Murdzia
Yale University
135 College Street, Suite 100
New Haven, CT 06510

Project Location: KGL
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 11D0273

Enclosed are results of analyses for samples received by the laboratory on April 8, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Yale University
135 College Street, Suite 100
New Haven, CT 06510
ATTN: Steven Murdzia

REPORT DATE: 6/3/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11D0273

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: KGL

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL 102 LW	11D0273-01	Concrete		SW-846 8082	
KGL 201 AX	11D0273-02	Concrete		SW-846 8082	
KGL 201 BX	11D0273-03	Concrete		SW-846 8082	
KGL 204	11D0273-04	Concrete		SW-846 8082	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISED REPORT - 06/03/2011 - RPD report and chromatogram attached per clients request.

For method 8082, for sample 11D0273-02, Surrogate recovery non-conformance confirmed as matrix interference by GCMS scan. See attached chromatogram.

SW-846 8082

Qualifications:

Surrogate recovery outside of control limits due to suspected sample matrix interference. Chromatogram(s) is attached.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl, Decachlorobiphenyl [2C], Tetrachloro-m-xylene, Tetrachloro-m-xylene [2C]

11D0273-02[KGL 201 AX]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11D0273

Date Received: 4/8/2011

Field Sample #: KGL 102 LW
Sampled: 4/8/2011 00:00

Sample ID: 11D0273-01

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 22:49	PJG
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 22:49	PJG
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 22:49	PJG
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 22:49	PJG
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 22:49	PJG
Aroclor-1254 [1]	0.86	0.095	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 22:49	PJG
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 22:49	PJG
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 22:49	PJG
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 22:49	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	105	30-150		4/11/11 22:49
Decachlorobiphenyl [2]	106	30-150		4/11/11 22:49
Tetrachloro-m-xylene [1]	110	30-150		4/11/11 22:49
Tetrachloro-m-xylene [2]	105	30-150		4/11/11 22:49

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11D0273

Date Received: 4/8/2011

Field Sample #: KGL 201 AX | Sampled: 4/8/2011 00:00

Sample ID: 11D0273-02

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg	1		SW-846 8082	4/8/11	4/12/11 9:40	PJG
Aroclor-1221 [1]	ND	0.091	mg/Kg	1		SW-846 8082	4/8/11	4/12/11 9:40	PJG
Aroclor-1232 [1]	ND	0.091	mg/Kg	1		SW-846 8082	4/8/11	4/12/11 9:40	PJG
Aroclor-1242 [1]	ND	0.091	mg/Kg	1		SW-846 8082	4/8/11	4/12/11 9:40	PJG
Aroclor-1248 [1]	ND	0.091	mg/Kg	1		SW-846 8082	4/8/11	4/12/11 9:40	PJG
Aroclor-1254 [1]	0.73	0.091	mg/Kg	1		SW-846 8082	4/8/11	4/12/11 9:40	PJG
Aroclor-1260 [1]	ND	0.091	mg/Kg	1		SW-846 8082	4/8/11	4/12/11 9:40	PJG
Aroclor-1262 [1]	ND	0.091	mg/Kg	1		SW-846 8082	4/8/11	4/12/11 9:40	PJG
Aroclor-1268 [1]	ND	0.091	mg/Kg	1		SW-846 8082	4/8/11	4/12/11 9:40	PJG

Surrogates	% Recovery		Recovery Limits	Flag	
Decachlorobiphenyl [1]	**299**	*	30-150	S-15	4/12/11 9:40
Decachlorobiphenyl [2]	**289**	*	30-150	S-15	4/12/11 9:40
Tetrachloro-m-xylene [1]	**326**	*	30-150	S-15	4/12/11 9:40
Tetrachloro-m-xylene [2]	**309**	*	30-150	S-15	4/12/11 9:40

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11D0273

Date Received: 4/8/2011

Field Sample #: KGL 201 BX
Sampled: 4/8/2011 00:00

Sample ID: 11D0273-03

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:16	PJG
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:16	PJG
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:16	PJG
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:16	PJG
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:16	PJG
Aroclor-1254 [1]	1.1	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:16	PJG
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:16	PJG
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:16	PJG
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:16	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	92.9	30-150		4/11/11 23:16
Decachlorobiphenyl [2]	96.2	30-150		4/11/11 23:16
Tetrachloro-m-xylene [1]	116	30-150		4/11/11 23:16
Tetrachloro-m-xylene [2]	110	30-150		4/11/11 23:16

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11D0273

Date Received: 4/8/2011

Field Sample #: KGL 204
Sampled: 4/8/2011 00:00

Sample ID: 11D0273-04

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:30	PJG
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:30	PJG
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:30	PJG
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:30	PJG
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:30	PJG
Aroclor-1254 [1]	0.47	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:30	PJG
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:30	PJG
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:30	PJG
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	4/8/11	4/11/11 23:30	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	108	30-150		4/11/11 23:30
Decachlorobiphenyl [2]	110	30-150		4/11/11 23:30
Tetrachloro-m-xylene [1]	119	30-150		4/11/11 23:30
Tetrachloro-m-xylene [2]	114	30-150		4/11/11 23:30

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11D0273-01 [KGL 102 LW]	B028687	2.10	10.0	04/08/11
11D0273-02 [KGL 201 AX]	B028687	2.20	10.0	04/08/11
11D0273-03 [KGL 201 BX]	B028687	2.00	10.0	04/08/11
11D0273-04 [KGL 204]	B028687	2.00	10.0	04/08/11

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B028687 - SW-846 3540C										
Blank (B028687-BLK1)				Prepared: 04/08/11 Analyzed: 04/11/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.951*		mg/Kg	1.00		95.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.924*		mg/Kg	1.00		92.4	30-150			
Surrogate: Tetrachloro-m-xylene	*1.06*		mg/Kg	1.00		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.02*		mg/Kg	1.00		102	30-150			
LCS (B028687-BS1)				Prepared: 04/08/11 Analyzed: 04/11/11						
Aroclor-1016	0.25	0.10	mg/Kg	0.250		98.6	40-140			
Aroclor-1016 [2C]	0.25	0.10	mg/Kg	0.250		99.7	40-140			
Aroclor-1260	0.24	0.10	mg/Kg	0.250		97.2	40-140			
Aroclor-1260 [2C]	0.23	0.10	mg/Kg	0.250		93.6	40-140			
Surrogate: Decachlorobiphenyl	*0.865*		mg/Kg	1.00		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.842*		mg/Kg	1.00		84.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.960*		mg/Kg	1.00		96.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.922*		mg/Kg	1.00		92.2	30-150			
LCS Dup (B028687-BSD1)				Prepared: 04/08/11 Analyzed: 04/11/11						
Aroclor-1016	0.30	0.10	mg/Kg	0.250		120	40-140	19.4	30	
Aroclor-1016 [2C]	0.31	0.10	mg/Kg	0.250		123	40-140	20.8	30	
Aroclor-1260	0.30	0.10	mg/Kg	0.250		120	40-140	21.2	30	
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		117	40-140	22.2	30	
Surrogate: Decachlorobiphenyl	*1.17*		mg/Kg	1.00		117	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.13*		mg/Kg	1.00		113	30-150			
Surrogate: Tetrachloro-m-xylene	*1.16*		mg/Kg	1.00		116	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.10*		mg/Kg	1.00		110	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
S-15	Surrogate recovery outside of control limits due to suspected sample matrix interference. Chromatogram(s) is attached.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082 in Product/Solid	
Aroclor-1016	CT,NH,NY
Aroclor-1016 [2C]	CT,NH,NY
Aroclor-1221	CT,NH,NY
Aroclor-1221 [2C]	CT,NH,NY
Aroclor-1232	CT,NH,NY
Aroclor-1232 [2C]	CT,NH,NY
Aroclor-1242	CT,NH,NY
Aroclor-1242 [2C]	CT,NH,NY
Aroclor-1248	CT,NH,NY
Aroclor-1248 [2C]	CT,NH,NY
Aroclor-1254	CT,NH,NY
Aroclor-1254 [2C]	CT,NH,NY
Aroclor-1260	CT,NH,NY
Aroclor-1260 [2C]	CT,NH,NY

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2011
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page____of____

11D0273

Company Name: YALE EHS
Address: 135 COLLEGE ST, STE 100
NEW HAVEN, CT 06510
Attention: STEVE MURDZIA
Project Location: KGL
Sampled By: [signature]

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone: 203 737 4453
Project #
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ○ WEBSITE
Fax #
Email: steven.murdzia@yale.edu
Format: ☒ PDF ☒ EXCEL ○ GIS
○ OTHER_____
○ "Enhanced Data Package"

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB EPA 8082	SOXHLET 3540C	9XTRACTION	# of Containers	** Preservation	***Container Co
1	KGL ~~103~~ 102 LW	4/8/11					G	X					
2	KGL 201-AX							X					
3	KGL 201-BX							X					
4	KGL 204							X					

ANALYSIS REQUESTED

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) [signature] 1715	Date/Time: 4/8/11	
Received by: (signature) Paula [signature] 17:15	Date/Time: 4.8.11	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Turnaround ††
☐ 7-Day
☒ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☑ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

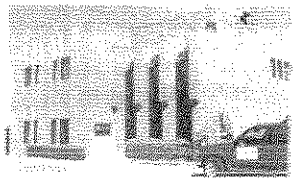
NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY



Sample Receipt Checklist

CLIENT NAME: Yale EHS RECEIVED BY: CB DATE: 4/8/11

1) Was the chain(s) of custody relinquished and signed? Yes No

2) Does the chain agree with the samples? Yes No

If not, explain:

3) Are all the samples in good condition? Yes No

If not, explain:

4) How were the samples received:

On Ice ☑ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☑

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank: _____ Temperature °C by Temp gun: 5-8°C

5) Are there Dissolved samples for the lab to filter? Yes No

Who was notified _____ Date _____ Time _____

6) Are there any samples "On Hold"? Yes No Stored where:

7) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified _____ Date _____ Time _____

8) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	4
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below		SOC Kit	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Non-ConTest Container	
Flashpoint bottle		Other	
Encore		PM 2.5 / PM 10	
Perchlorate Kit		PUF Cartridge	

Laboratory Comments:

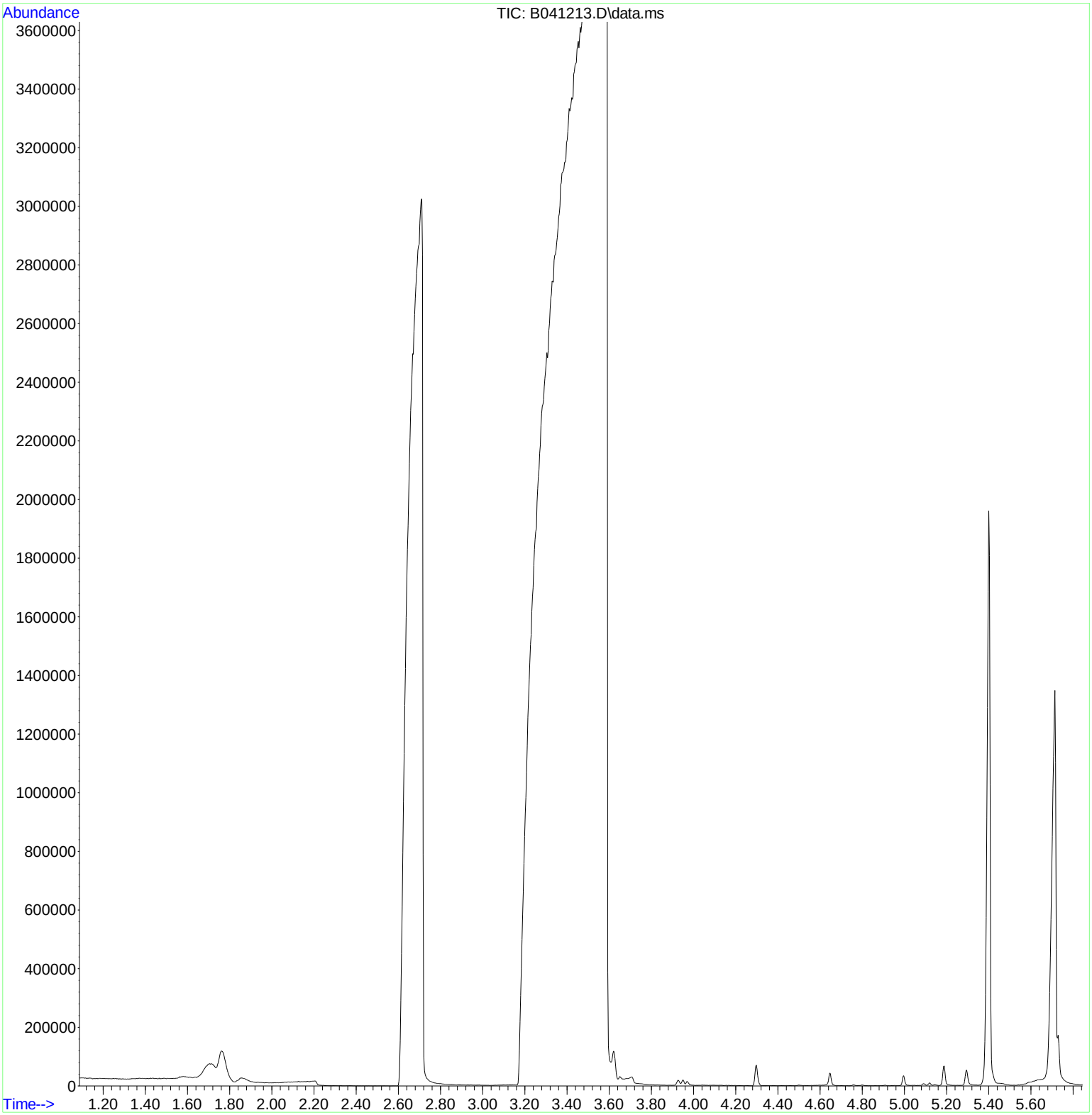
40 mL vials: # HCl _____ # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No N/A _____

Do all samples have the proper Base pH: Yes No N/A _____

File :H:\2\DATA\041211\B041213.D
Operator : BGL
Acquired : 12 Apr 2011 3:24 pm using AcqMethod BN203231.M
Instrument : GCMSSV2
Sample Name: 11D0273-02 (10x)
Misc Info :
Vial Number: 13



11D0159-37 SB-23A

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	0.623	0.613845	1.48
Decachlorobiphenyl	0.966	0.93451	3.31

11D0273-01 KGL 102 LW

Analyte	Results		%RPD
Aroclor-1254	0.86	0.7939953	7.98
Surrogates			
Decachlorobiphenyl	1.00	1.009495	0.945
Tetrachloro-m-xylene	1.05	1.000681	4.81

11D0273-02 KGL 201 AX

Analyte	Results		%RPD
Aroclor-1254	0.73	0.6702545	8.53
Surrogates			
Tetrachloro-m-xylene	2.97	2.809636	5.55
Decachlorobiphenyl	2.72	2.626314	3.5

11D0273-03 KGL 201 BX

Analyte	Results		%RPD
Aroclor-1254	1.1	1.077795	2.04
Surrogates			
Tetrachloro-m-xylene	1.16	1.09626	5.65
Decachlorobiphenyl	0.929	0.96207	3.5

11D0273-04 KGL 204

Analyte	Results		%RPD
Aroclor-1254	0.47	0.45902	2.36
Surrogates			
Decachlorobiphenyl	1.08	1.096	1.47
Tetrachloro-m-xylene	1.19	1.142405	4.08

B028687-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	0.951	0.92439	2.84
Tetrachloro-m-xylene	1.06	1.020705	3.78

B028687-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	0.24	0.234	2.53
Aroclor-1016	0.25	0.24933	0.268
Surrogates			
Decachlorobiphenyl	0.865	0.841845	2.71
Tetrachloro-m-xylene	0.960	0.922035	4.03

B028687-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.30	0.30708	2.33
Aroclor-1260	0.30	0.29251	2.53
Surrogates			
Tetrachloro-m-xylene	1.16	1.10213	5.12
Decachlorobiphenyl	1.17	1.1263	3.81

B028687-MS1 Matrix Spike

Analyte	Results		%RPD
Aroclor-1016	0.28	0.282635	0.937
Aroclor-1260	0.27	0.25917	4.09
Surrogates			

Tetrachloro-m-xylene	1.07	1.02138	4.65
Decachlorobiphenyl	0.998	0.964515	3.41

B028687-MSD1 Matrix Spike Dup

Analyte	Results		%RPD
Aroclor-1016	0.29	0.279975	3.52
Aroclor-1260	0.29	0.2873	0.935
Surrogates			
Tetrachloro-m-xylene	1.04	0.991565	4.77
Decachlorobiphenyl	1.13	1.08676	3.9

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 21, 2011

Steven Murdzia
Yale University
135 College Street, Suite 100
New Haven, CT 06510

Project Location: KGL
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 11D0523

Enclosed are results of analyses for samples received by the laboratory on April 18, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Yale University
135 College Street, Suite 100
New Haven, CT 06510
ATTN: Steven Murdzia

REPORT DATE: 4/21/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11D0523

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: KGL

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL 335 18	11D0523-01	Product/Solid		SW-846 8082	
KGL 335 24	11D0523-02	Product/Solid		SW-846 8082	
KGL 208 IGL	11D0523-03	Product/Solid		SW-846 8082	
KGL 335 IGL	11D0523-04	Product/Solid		SW-846 8082	
KGL 102 EXCK	11D0523-05	Caulk		SW-846 8082	
KGL 201 EXCK	11D0523-06	Caulk		SW-846 8082	
KGL 204 EWL	11D0523-07	Product/Solid		SW-846 8082	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082

Qualifications:

Matrix spike and spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016, Aroclor-1016 [2C], Aroclor-1260, Aroclor-1260 [2C]

B029112-MS1, B029112-MSD1

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl, Decachlorobiphenyl [2C], Tetrachloro-m-xylene, Tetrachloro-m-xylene [2C]

11D0523-03[KGL 208 IGL], 11D0523-04[KGL 335 IGL], 11D0523-05[KGL 102 EXCK], 11D0523-06[KGL 201 EXCK], 11D0523-07[KGL 204 EWL]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Holly L. Folsom
Project Chemist

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11D0523

Date Received: 4/18/2011

Field Sample #: KGL 335 18
Sampled: 4/15/2011 00:00

Sample ID: 11D0523-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.19	mg/Kg	2		SW-846 8082	4/18/11	4/20/11 16:10	PJG
Aroclor-1221 [1]	ND	0.19	mg/Kg	2		SW-846 8082	4/18/11	4/20/11 16:10	PJG
Aroclor-1232 [1]	ND	0.19	mg/Kg	2		SW-846 8082	4/18/11	4/20/11 16:10	PJG
Aroclor-1242 [1]	ND	0.19	mg/Kg	2		SW-846 8082	4/18/11	4/20/11 16:10	PJG
Aroclor-1248 [1]	ND	0.19	mg/Kg	2		SW-846 8082	4/18/11	4/20/11 16:10	PJG
Aroclor-1254 [1]	2.3	0.19	mg/Kg	2		SW-846 8082	4/18/11	4/20/11 16:10	PJG
Aroclor-1260 [1]	ND	0.19	mg/Kg	2		SW-846 8082	4/18/11	4/20/11 16:10	PJG
Aroclor-1262 [1]	ND	0.19	mg/Kg	2		SW-846 8082	4/18/11	4/20/11 16:10	PJG
Aroclor-1268 [1]	ND	0.19	mg/Kg	2		SW-846 8082	4/18/11	4/20/11 16:10	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	116	30-150		4/20/11 16:10
Decachlorobiphenyl [2]	113	30-150		4/20/11 16:10
Tetrachloro-m-xylene [1]	122	30-150		4/20/11 16:10
Tetrachloro-m-xylene [2]	118	30-150		4/20/11 16:10

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11D0523

Date Received: 4/18/2011

Field Sample #: KGL 335 24
Sampled: 4/15/2011 00:00

Sample ID: 11D0523-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/18/11	4/19/11 17:57	PJG
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/18/11	4/19/11 17:57	PJG
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/18/11	4/19/11 17:57	PJG
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/18/11	4/19/11 17:57	PJG
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/18/11	4/19/11 17:57	PJG
Aroclor-1254 [2]	1.2	0.095	mg/Kg	1		SW-846 8082	4/18/11	4/19/11 17:57	PJG
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/18/11	4/19/11 17:57	PJG
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/18/11	4/19/11 17:57	PJG
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	4/18/11	4/19/11 17:57	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	116	30-150		4/19/11 17:57
Decachlorobiphenyl [2]	117	30-150		4/19/11 17:57
Tetrachloro-m-xylene [1]	132	30-150		4/19/11 17:57
Tetrachloro-m-xylene [2]	135	30-150		4/19/11 17:57

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11D0523

Date Received: 4/18/2011

Field Sample #: KGL 208 IGL | Sampled: 4/15/2011 00:00

Sample ID: 11D0523-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	530	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 16:26	PJG
Aroclor-1221 [1]	ND	530	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 16:26	PJG
Aroclor-1232 [1]	ND	530	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 16:26	PJG
Aroclor-1242 [1]	ND	530	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 16:26	PJG
Aroclor-1248 [1]	ND	530	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 16:26	PJG
Aroclor-1254 [2]	4300	530	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 16:26	PJG
Aroclor-1260 [1]	ND	530	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 16:26	PJG
Aroclor-1262 [1]	ND	530	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 16:26	PJG
Aroclor-1268 [1]	ND	530	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 16:26	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	4/20/11 16:26
Decachlorobiphenyl [2]	*	30-150	S-01	4/20/11 16:26
Tetrachloro-m-xylene [1]	*	30-150	S-01	4/20/11 16:26
Tetrachloro-m-xylene [2]	*	30-150	S-01	4/20/11 16:26

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11D0523

Date Received: 4/18/2011

Field Sample #: KGL 335 IGL | Sampled: 4/15/2011 00:00

Sample ID: 11D0523-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	800	mg/Kg	8000		SW-846 8082	4/18/11	4/21/11 10:14	PJG
Aroclor-1221 [1]	ND	800	mg/Kg	8000		SW-846 8082	4/18/11	4/21/11 10:14	PJG
Aroclor-1232 [1]	ND	800	mg/Kg	8000		SW-846 8082	4/18/11	4/21/11 10:14	PJG
Aroclor-1242 [1]	ND	800	mg/Kg	8000		SW-846 8082	4/18/11	4/21/11 10:14	PJG
Aroclor-1248 [1]	ND	800	mg/Kg	8000		SW-846 8082	4/18/11	4/21/11 10:14	PJG
Aroclor-1254 [2]	5600	800	mg/Kg	8000		SW-846 8082	4/18/11	4/21/11 10:14	PJG
Aroclor-1260 [1]	ND	800	mg/Kg	8000		SW-846 8082	4/18/11	4/21/11 10:14	PJG
Aroclor-1262 [1]	ND	800	mg/Kg	8000		SW-846 8082	4/18/11	4/21/11 10:14	PJG
Aroclor-1268 [1]	ND	800	mg/Kg	8000		SW-846 8082	4/18/11	4/21/11 10:14	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	4/21/11 10:14
Decachlorobiphenyl [2]	*	30-150	S-01	4/21/11 10:14
Tetrachloro-m-xylene [1]	*	30-150	S-01	4/21/11 10:14
Tetrachloro-m-xylene [2]	*	30-150	S-01	4/21/11 10:14

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11D0523

Date Received: 4/18/2011

Field Sample #: KGL 102 EXCK | Sampled: 4/15/2011 00:00

Sample ID: 11D0523-05

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 16:57	PJG
Aroclor-1221 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 16:57	PJG
Aroclor-1232 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 16:57	PJG
Aroclor-1242 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 16:57	PJG
Aroclor-1248 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 16:57	PJG
Aroclor-1254 [2]	270000	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 16:57	PJG
Aroclor-1260 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 16:57	PJG
Aroclor-1262 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 16:57	PJG
Aroclor-1268 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 16:57	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	4/20/11 16:57
Decachlorobiphenyl [2]	*	30-150	S-01	4/20/11 16:57
Tetrachloro-m-xylene [1]	*	30-150	S-01	4/20/11 16:57
Tetrachloro-m-xylene [2]	*	30-150	S-01	4/20/11 16:57

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11D0523

Date Received: 4/18/2011

Field Sample #: KGL 201 EXCK | Sampled: 4/15/2011 00:00

Sample ID: 11D0523-06

Sample Matrix: Caulk

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 17:12	PJG
Aroclor-1221 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 17:12	PJG
Aroclor-1232 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 17:12	PJG
Aroclor-1242 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 17:12	PJG
Aroclor-1248 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 17:12	PJG
Aroclor-1254 [2]	220000	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 17:12	PJG
Aroclor-1260 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 17:12	PJG
Aroclor-1262 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 17:12	PJG
Aroclor-1268 [1]	ND	18000	mg/Kg	100000		SW-846 8082	4/18/11	4/20/11 17:12	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	4/20/11 17:12
Decachlorobiphenyl [2]	*	30-150	S-01	4/20/11 17:12
Tetrachloro-m-xylene [1]	*	30-150	S-01	4/20/11 17:12
Tetrachloro-m-xylene [2]	*	30-150	S-01	4/20/11 17:12

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11D0523

Date Received: 4/18/2011

Field Sample #: KGL 204 EWL | Sampled: 4/15/2011 00:00

Sample ID: 11D0523-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	620	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 17:28	PJG
Aroclor-1221 [1]	ND	620	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 17:28	PJG
Aroclor-1232 [1]	ND	620	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 17:28	PJG
Aroclor-1242 [1]	ND	620	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 17:28	PJG
Aroclor-1248 [1]	ND	620	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 17:28	PJG
Aroclor-1254 [2]	3800	620	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 17:28	PJG
Aroclor-1260 [1]	ND	620	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 17:28	PJG
Aroclor-1262 [1]	ND	620	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 17:28	PJG
Aroclor-1268 [1]	ND	620	mg/Kg	4000		SW-846 8082	4/18/11	4/20/11 17:28	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	4/20/11 17:28
Decachlorobiphenyl [2]	*	30-150	S-01	4/20/11 17:28
Tetrachloro-m-xylene [1]	*	30-150	S-01	4/20/11 17:28
Tetrachloro-m-xylene [2]	*	30-150	S-01	4/20/11 17:28

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11D0523-05 [KGL 102 EXCK]	B029110	0.551	10.0	04/18/11
11D0523-06 [KGL 201 EXCK]	B029110	0.542	10.0	04/18/11

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11D0523-01 [KGL 335 18]	B029112	2.10	10.0	04/18/11
11D0523-02 [KGL 335 24]	B029112	2.10	10.0	04/18/11
11D0523-03 [KGL 208 IGL]	B029112	1.50	10.0	04/18/11
11D0523-04 [KGL 335 IGL]	B029112	2.00	10.0	04/18/11
11D0523-07 [KGL 204 EWL]	B029112	1.30	10.0	04/18/11

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B029110 - SW-846 3540C										
Blank (B029110-BLK1)				Prepared: 04/18/11 Analyzed: 04/19/11						
Aroclor-1016	ND	0.20	mg/Kg							
Aroclor-1016 [2C]	ND	0.20	mg/Kg							
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							
Aroclor-1260 [2C]	ND	0.20	mg/Kg							
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	*4.65*		mg/Kg	4.00		116	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.64*		mg/Kg	4.00		116	30-150			
Surrogate: Tetrachloro-m-xylene	*5.30*		mg/Kg	4.00		133	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.30*		mg/Kg	4.00		132	30-150			
LCS (B029110-BS1)				Prepared: 04/18/11 Analyzed: 04/19/11						
Aroclor-1016	4.5	0.20	mg/Kg	4.00		112	40-140			
Aroclor-1016 [2C]	4.3	0.20	mg/Kg	4.00		107	40-140			
Aroclor-1260	4.0	0.20	mg/Kg	4.00		99.5	40-140			
Aroclor-1260 [2C]	4.1	0.20	mg/Kg	4.00		101	40-140			
Surrogate: Decachlorobiphenyl	*4.27*		mg/Kg	4.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.37*		mg/Kg	4.00		109	30-150			
Surrogate: Tetrachloro-m-xylene	*4.99*		mg/Kg	4.00		125	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.20*		mg/Kg	4.00		130	30-150			
LCS Dup (B029110-BSD1)				Prepared: 04/18/11 Analyzed: 04/19/11						
Aroclor-1016	5.0	0.20	mg/Kg	4.00		125	40-140	10.8	30	
Aroclor-1016 [2C]	4.9	0.20	mg/Kg	4.00		124	40-140	14.4	30	
Aroclor-1260	4.1	0.20	mg/Kg	4.00		102	40-140	2.44	30	
Aroclor-1260 [2C]	4.2	0.20	mg/Kg	4.00		105	40-140	3.83	30	
Surrogate: Decachlorobiphenyl	*4.07*		mg/Kg	4.00		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.16*		mg/Kg	4.00		104	30-150			
Surrogate: Tetrachloro-m-xylene	*5.41*		mg/Kg	4.00		135	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.57*		mg/Kg	4.00		139	30-150			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B029112 - SW-846 3540C										
Blank (B029112-BLK1)				Prepared: 04/18/11 Analyzed: 04/19/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*1.21*		mg/Kg	1.00		121	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.23*		mg/Kg	1.00		123	30-150			
Surrogate: Tetrachloro-m-xylene	*1.34*		mg/Kg	1.00		134	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.34*		mg/Kg	1.00		134	30-150			
LCS (B029112-BS1)				Prepared: 04/18/11 Analyzed: 04/19/11						
Aroclor-1016	1.1	0.10	mg/Kg	1.00		109	40-140			
Aroclor-1016 [2C]	1.1	0.10	mg/Kg	1.00		109	40-140			
Aroclor-1260	1.1	0.10	mg/Kg	1.00		107	40-140			
Aroclor-1260 [2C]	1.1	0.10	mg/Kg	1.00		107	40-140			
Surrogate: Decachlorobiphenyl	*1.32*		mg/Kg	1.00		132	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.35*		mg/Kg	1.00		135	30-150			
Surrogate: Tetrachloro-m-xylene	*1.23*		mg/Kg	1.00		123	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.25*		mg/Kg	1.00		125	30-150			
LCS Dup (B029112-BSD1)				Prepared: 04/18/11 Analyzed: 04/19/11						
Aroclor-1016	1.2	0.10	mg/Kg	1.00		121	40-140	10.8	30	
Aroclor-1016 [2C]	1.2	0.10	mg/Kg	1.00		116	40-140	6.74	30	
Aroclor-1260	1.2	0.10	mg/Kg	1.00		119	40-140	9.98	30	
Aroclor-1260 [2C]	1.2	0.10	mg/Kg	1.00		115	40-140	7.00	30	
Surrogate: Decachlorobiphenyl	*1.39*		mg/Kg	1.00		139	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.41*		mg/Kg	1.00		141	30-150			
Surrogate: Tetrachloro-m-xylene	*1.32*		mg/Kg	1.00		132	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.35*		mg/Kg	1.00		135	30-150			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B029112 - SW-846 3540C											
Matrix Spike (B029112-MS1)		**Source: 11D0523-01**		Prepared: 04/18/11 Analyzed: 04/19/11							
Aroclor-1016	5.4	0.091	mg/Kg	0.909	0.0	**591**	*	40-140			MS-21
Aroclor-1016 [2C]	4.1	0.091	mg/Kg	0.909	0.0	**450**	*	40-140			MS-21
Aroclor-1260	1.9	0.091	mg/Kg	0.909	0.0	**207**	*	40-140			MS-21
Aroclor-1260 [2C]	1.6	0.091	mg/Kg	0.909	0.0	**180**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.756*		mg/Kg	0.909		83.2		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.753*		mg/Kg	0.909		82.8		30-150			
Surrogate: Tetrachloro-m-xylene	*1.16*		mg/Kg	0.909		128		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.18*		mg/Kg	0.909		130		30-150			
Matrix Spike Dup (B029112-MSD1)		**Source: 11D0523-01**		Prepared: 04/18/11 Analyzed: 04/19/11							
Aroclor-1016	4.6	0.095	mg/Kg	0.952	0.0	**479**	*	40-140	16.3	50	MS-21
Aroclor-1016 [2C]	3.6	0.095	mg/Kg	0.952	0.0	**378**	*	40-140	12.8	50	MS-21
Aroclor-1260	1.7	0.095	mg/Kg	0.952	0.0	**178**	*	40-140	10.3	50	MS-21
Aroclor-1260 [2C]	1.5	0.095	mg/Kg	0.952	0.0	**158**	*	40-140	8.37	50	MS-21
Surrogate: Decachlorobiphenyl	*0.851*		mg/Kg	0.952		89.4		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.847*		mg/Kg	0.952		88.9		30-150			
Surrogate: Tetrachloro-m-xylene	*1.15*		mg/Kg	0.952		121		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.17*		mg/Kg	0.952		123		30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
MS-21	Matrix spike and spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082 in Product/Solid	
Aroclor-1016	CT,NH,NY
Aroclor-1016 [2C]	CT,NH,NY
Aroclor-1221	CT,NH,NY
Aroclor-1221 [2C]	CT,NH,NY
Aroclor-1232	CT,NH,NY
Aroclor-1232 [2C]	CT,NH,NY
Aroclor-1242	CT,NH,NY
Aroclor-1242 [2C]	CT,NH,NY
Aroclor-1248	CT,NH,NY
Aroclor-1248 [2C]	CT,NH,NY
Aroclor-1254	CT,NH,NY
Aroclor-1254 [2C]	CT,NH,NY
Aroclor-1260	CT,NH,NY
Aroclor-1260 [2C]	CT,NH,NY

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2011
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page_____of_____

11D0523

Company Name: YALE EHS
Address: 135 COLLEGE ST, STE 100
NEWHAVEN, CT 06510
Attention: STEVE MURDZIA
Project Location: KGL
Sampled By: S. MURDZIA

Telephone: 203 737-4453
Project #
Client PO#

DATA DELIVERY (check all that apply)
O FAX ☒ EMAIL O WEBSITE
Fax #
Email: Steven.Murdzia@yale.edu
Format: ☒ PDF O EXCEL O GIS
O OTHER_____
O "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
O yes_____ proposal date

ANALYSIS REQUESTED: PCB EPA 8082; 3540C SOXHLET EXTRACTION

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code
-01	KGL335 18	4/15/11					G
02	KGL 335 24						
03	KGL 208 IGL *						
04	KGL 335 IGL *						
05	KGL 102 EXCK *						
06	KGL 201 EXCK *						
07	KGL 204 EWL ⊛ *						

# of Containers
** Preservation
***Container Code

Dissolved Metals
O Field Filtered
O Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:
* EXPECTATION IS WELL ABOVE 50 PPM – CAULK MATERIAL
⊛ Bottle labeled KGL 204 EWG AP 4/18/11

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 4/18/11 1130
Received by: (signature) 4/18/11	Date/Time: 08:30
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☒ 10-Day
☐ Other ____

RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☒ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
O MCP Form Required
O RCP Form Required
O MA State DW Form Required PWSID # _____

ACCREDITED IN ACCORDANCE WITH nelac
AIHA ACCREDITED LABORATORY

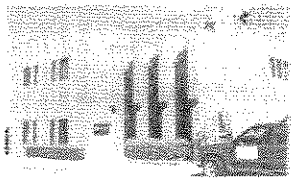
NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY



Sample Receipt Checklist

CLIENT NAME: Yale EHS RECEIVED BY: AP DATE: 4/18/11

1) Was the chain(s) of custody relinquished and signed? (Yes) No

2) Does the chain agree with the samples? Yes (No) (*)

If not, explain:

3) Are all the samples in good condition? (Yes) No

If not, explain:

4) How were the samples received:

On Ice ☑ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☑

Were the samples received in Temperature Compliance of (2-6°C)? (Yes) No N/A

Temperature °C by Temp blank: _____ Temperature °C by Temp gun: 5.6°C

5) Are there Dissolved samples for the lab to filter? Yes (No)

Who was notified _____ Date _____ Time _____

6) Are there any samples "On Hold"? Yes (No) Stored where:

7) Are there any RUSH or SHORT HOLDING TIME samples? (Yes) No

Who was notified _____ Date _____ Time _____

8) Location where samples are stored: Login

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature:

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	4
1 Liter Plastic		Other glass jar small narrow	3
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below		SOC Kit	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Non-ConTest Container	
Flashpoint bottle		Other	
Encore		PM 2.5 / PM 10	
Perchlorate Kit		PUF Cartridge	

Laboratory Comments:
(*) Sample KGL 204 EWL on COC is labeled KGL 204 EWG on bottle. AP 4/18

40 mL vials: # HCl _____ # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No (N/A) _____

Do all samples have the proper Base pH: Yes No (N/A) _____

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

May 18, 2011

Steven Murdzia
Yale University
135 College Street, Suite 100
New Haven, CT 06510

Project Location: KGL
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 11E0395

Enclosed are results of analyses for samples received by the laboratory on May 13, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Yale University
135 College Street, Suite 100
New Haven, CT 06510
ATTN: Steven Murdzia

REPORT DATE: 5/18/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11E0395

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: KGL

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL 208A-36	11E0395-01	Concrete		SW-846 8082	
KGL 111-36	11E0395-02	Concrete		SW-846 8082	
KGL 335-36	11E0395-03	Concrete		SW-846 8082	
KGL BSMT 11	11E0395-04	Concrete		SW-846 8082	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11E0395

Date Received: 5/13/2011

Field Sample #: KGL 208A-36
Sampled: 5/12/2011 00:00

Sample ID: 11E0395-01

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.087	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:40	PJG
Aroclor-1221 [1]	ND	0.087	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:40	PJG
Aroclor-1232 [1]	ND	0.087	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:40	PJG
Aroclor-1242 [1]	ND	0.087	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:40	PJG
Aroclor-1248 [1]	ND	0.087	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:40	PJG
Aroclor-1254 [2]	0.49	0.087	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:40	PJG
Aroclor-1260 [1]	ND	0.087	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:40	PJG
Aroclor-1262 [1]	ND	0.087	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:40	PJG
Aroclor-1268 [1]	ND	0.087	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:40	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	104	30-150		5/18/11 14:40
Decachlorobiphenyl [2]	98.1	30-150		5/18/11 14:40
Tetrachloro-m-xylene [1]	102	30-150		5/18/11 14:40
Tetrachloro-m-xylene [2]	96.2	30-150		5/18/11 14:40

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11E0395

Date Received: 5/13/2011

Field Sample #: KGL 111-36 | Sampled: 5/12/2011 00:00

Sample ID: 11E0395-02

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:54	PJG
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:54	PJG
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:54	PJG
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:54	PJG
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:54	PJG
Aroclor-1254 [2]	0.29	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:54	PJG
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:54	PJG
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:54	PJG
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 14:54	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	93.5	30-150		5/18/11 14:54
Decachlorobiphenyl [2]	87.4	30-150		5/18/11 14:54
Tetrachloro-m-xylene [1]	74.7	30-150		5/18/11 14:54
Tetrachloro-m-xylene [2]	71.6	30-150		5/18/11 14:54

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11E0395

Date Received: 5/13/2011

Field Sample #: KGL 335-36
Sampled: 5/12/2011 00:00

Sample ID: 11E0395-03

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082	5/17/11	5/18/11 16:02	PJG
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082	5/17/11	5/18/11 16:02	PJG
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082	5/17/11	5/18/11 16:02	PJG
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082	5/17/11	5/18/11 16:02	PJG
Aroclor-1248 [1]	ND	0.50	mg/Kg	5		SW-846 8082	5/17/11	5/18/11 16:02	PJG
Aroclor-1254 [2]	2.2	0.50	mg/Kg	5		SW-846 8082	5/17/11	5/18/11 16:02	PJG
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082	5/17/11	5/18/11 16:02	PJG
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082	5/17/11	5/18/11 16:02	PJG
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082	5/17/11	5/18/11 16:02	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	138	30-150		5/18/11 16:02
Decachlorobiphenyl [2]	137	30-150		5/18/11 16:02
Tetrachloro-m-xylene [1]	107	30-150		5/18/11 16:02
Tetrachloro-m-xylene [2]	107	30-150		5/18/11 16:02

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11E0395

Date Received: 5/13/2011

Field Sample #: KGL BSMT 11
Sampled: 5/12/2011 00:00

Sample ID: 11E0395-04

Sample Matrix: Concrete

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 15:21	PJG
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 15:21	PJG
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 15:21	PJG
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 15:21	PJG
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 15:21	PJG
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 15:21	PJG
Aroclor-1260 [2]	0.53	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 15:21	PJG
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 15:21	PJG
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/17/11	5/18/11 15:21	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		5/18/11 15:21
Decachlorobiphenyl [2]	92.7	30-150		5/18/11 15:21
Tetrachloro-m-xylene [1]	107	30-150		5/18/11 15:21
Tetrachloro-m-xylene [2]	99.4	30-150		5/18/11 15:21

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11E0395-01RE1 [KGL 208A-36]	B030663	2.30	10.0	05/17/11
11E0395-02RE1 [KGL 111-36]	B030663	2.00	10.0	05/17/11
11E0395-03RE1 [KGL 335-36]	B030663	2.00	10.0	05/17/11
11E0395-04RE1 [KGL BSMT 11]	B030663	2.00	10.0	05/17/11

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B030663 - SW-846 3540C										
Blank (B030663-BLK1)				Prepared: 05/17/11 Analyzed: 05/18/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*1.23*		mg/Kg	1.00		123	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.15*		mg/Kg	1.00		115	30-150			
Surrogate: Tetrachloro-m-xylene	*1.39*		mg/Kg	1.00		139	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.30*		mg/Kg	1.00		130	30-150			
LCS (B030663-BS1)				Prepared: 05/17/11 Analyzed: 05/18/11						
Aroclor-1016	1.4	0.10	mg/Kg	1.00		138	40-140			
Aroclor-1016 [2C]	1.2	0.10	mg/Kg	1.00		123	40-140			
Aroclor-1260	1.3	0.10	mg/Kg	1.00		132	40-140			
Aroclor-1260 [2C]	1.3	0.10	mg/Kg	1.00		131	40-140			
Surrogate: Decachlorobiphenyl	*1.42*		mg/Kg	1.00		142	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.32*		mg/Kg	1.00		132	30-150			
Surrogate: Tetrachloro-m-xylene	*1.44*		mg/Kg	1.00		144	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.37*		mg/Kg	1.00		137	30-150			
LCS Dup (B030663-BSD1)				Prepared: 05/17/11 Analyzed: 05/18/11						
Aroclor-1016	1.1	0.10	mg/Kg	1.00		113	40-140	19.5	30	
Aroclor-1016 [2C]	1.0	0.10	mg/Kg	1.00		104	40-140	16.7	30	
Aroclor-1260	1.0	0.10	mg/Kg	1.00		104	40-140	24.1	30	
Aroclor-1260 [2C]	1.0	0.10	mg/Kg	1.00		104	40-140	23.2	30	
Surrogate: Decachlorobiphenyl	*2.21*		mg/Kg	2.00		110	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.01*		mg/Kg	2.00		101	30-150			
Surrogate: Tetrachloro-m-xylene	*2.46*		mg/Kg	2.00		123	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.28*		mg/Kg	2.00		114	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082 in Product/Solid	
Aroclor-1016	CT,NH,NY
Aroclor-1016 [2C]	CT,NH,NY
Aroclor-1221	CT,NH,NY
Aroclor-1221 [2C]	CT,NH,NY
Aroclor-1232	CT,NH,NY
Aroclor-1232 [2C]	CT,NH,NY
Aroclor-1242	CT,NH,NY
Aroclor-1242 [2C]	CT,NH,NY
Aroclor-1248	CT,NH,NY
Aroclor-1248 [2C]	CT,NH,NY
Aroclor-1254	CT,NH,NY
Aroclor-1254 [2C]	CT,NH,NY
Aroclor-1260	CT,NH,NY
Aroclor-1260 [2C]	CT,NH,NY

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2011
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012

CHAIN OF CUSTODY RECORD

11E0395

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Page____of____

Company Name: YALE EHS
Address: 135 COLLEGE ST, STE 100
NEW HAVEN, CT 06510
Attention: STEVE MURDZIA
Project Location: KGL
Sampled By: S. MURDZIA

Telephone: 203 737 4453
Project # —
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ☒ WEBSITE
Fax #
Email: steven.murdzia@yale.edu
Format: ☒ PDF ☒ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB 8240C ⊛	SOXHLET EXTRACT
-01	KGL 208A -36	5/12/11		✓		S	G		
02	KGL 111 -36	5/12/11		✓		S	G		
03	KGL 335-36	5/12/11		✓		S	G		
04	KGL BSMT 11	5/12/11		✓		S	G		
⊛ PCB by 8082 Soxhlet per Holly F		AP 5/13/11							

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments: ALL SAMPLES MASONRY SUBSTRATE ADJACENT TO PCB CAULK EPA REG 1

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature]	5/13/11 730
Received by: (signature) Alan Pienkowski 5.9°C	Date/Time: 5/13/11 07:30
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☒ 72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: EPA

Is your project MCP or RCP ?
○ MCP Analytical Certification Form Required
○ RCP Analysis Certification Form Required
○ MA State DW Form Required PWSID # _____

nelac AIHA
NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: YALE EHS RECEIVED BY: MCK DATE: _____

1) Was the chain(s) of custody relinquished and signed? Yes No

2) Does the chain agree with the samples? Yes No

If not, explain:

3) Are all the samples in good condition? Yes No

If not, explain:

4) How were the samples received:

On Ice ☒ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☒

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank: _____ Temperature °C by Temp gun: 5.9°C

5) Are there Dissolved samples for the lab to filter? Yes No

Who was notified _____ Date _____ Time _____

6) Are there any samples "On Hold"? Yes No Stored where:

7) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified _____ Date _____ Time _____

8) Location where samples are stored: log-in

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			8 oz amber/clear jar	
500 mL Amber			4 oz amber/clear jar	
250 mL Amber (8oz amber)			2 oz amber/clear jar	4
1 Liter Plastic			Other glass jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			Air Cassette	
40 mL Vial - type listed below			SOC Kit	
Colisure / bacteria bottle			Tubes	
Dissolved Oxygen bottle			Non-ConTest Container	
Flashpoint bottle			Other	
Encore			PM 2.5 / PM 10	
Perchlorate Kit			PUF Cartridge	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No N/A _____

Do all samples have the proper Base pH: Yes No N/A _____

March 2011

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

May 31, 2011

Steven Murdzia
Yale University
135 College Street, Suite 100
New Haven, CT 06510

Project Location: KGL
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 11E0778

Enclosed are results of analyses for samples received by the laboratory on May 26, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Yale University
135 College Street, Suite 100
New Haven, CT 06510
ATTN: Steven Murdzia

REPORT DATE: 5/31/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11E0778

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: KGL

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL122-36	11E0778-01	Product/Solid		SW-846 8082	
KGL220-36	11E0778-02	Product/Solid		SW-846 8082	
KGL217-36	11E0778-03	Product/Solid		SW-846 8082	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082

Qualifications:

Matrix spike and spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016, Aroclor-1016 [2C], Aroclor-1260, Aroclor-1260 [2C]

B031204-MS1, B031204-MSD1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11E0778

Date Received: 5/26/2011

Field Sample #: KGL122-36 | Sampled: 5/25/2011 00:00

Sample ID: 11E0778-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:25	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:25	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:25	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:25	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:25	JMB
Aroclor-1254 [2]	0.37	0.095	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:25	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:25	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:25	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:25	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	67.5	30-150		5/27/11 22:25
Decachlorobiphenyl [2]	69.8	30-150		5/27/11 22:25
Tetrachloro-m-xylene [1]	108	30-150		5/27/11 22:25
Tetrachloro-m-xylene [2]	108	30-150		5/27/11 22:25

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL
Sample Description:
Work Order: 11E0778

Date Received: 5/26/2011

Field Sample #: KGL220-36
Sampled: 5/25/2011 00:00

Sample ID: 11E0778-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:41	JMB
Aroclor-1221 [1]	ND	0.091	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:41	JMB
Aroclor-1232 [1]	ND	0.091	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:41	JMB
Aroclor-1242 [1]	ND	0.091	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:41	JMB
Aroclor-1248 [1]	ND	0.091	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:41	JMB
Aroclor-1254 [2]	0.89	0.091	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:41	JMB
Aroclor-1260 [1]	ND	0.091	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:41	JMB
Aroclor-1262 [1]	ND	0.091	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:41	JMB
Aroclor-1268 [1]	ND	0.091	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:41	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	66.3	30-150		5/27/11 22:41
Decachlorobiphenyl [2]	68.7	30-150		5/27/11 22:41
Tetrachloro-m-xylene [1]	104	30-150		5/27/11 22:41
Tetrachloro-m-xylene [2]	104	30-150		5/27/11 22:41

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: KGL | Sample Description: | Work Order: 11E0778

Date Received: 5/26/2011

Field Sample #: KGL217-36 | Sampled: 5/25/2011 00:00

Sample ID: 11E0778-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:56	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:56	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:56	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:56	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:56	JMB
Aroclor-1254 [2]	0.92	0.10	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:56	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:56	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:56	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082	5/26/11	5/27/11 22:56	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	76.0	30-150		5/27/11 22:56
Decachlorobiphenyl [2]	78.8	30-150		5/27/11 22:56
Tetrachloro-m-xylene [1]	105	30-150		5/27/11 22:56
Tetrachloro-m-xylene [2]	105	30-150		5/27/11 22:56

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11E0778-01 [KGL122-36]	B031204	2.10	10.0	05/26/11
11E0778-02 [KGL220-36]	B031204	2.20	10.0	05/26/11
11E0778-03 [KGL217-36]	B031204	2.00	10.0	05/26/11

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B031204 - SW-846 3540C										
Blank (B031204-BLK1)				Prepared: 05/26/11 Analyzed: 05/27/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.752*		mg/Kg	1.00		75.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.738*		mg/Kg	1.00		73.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.989*		mg/Kg	1.00		98.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.948*		mg/Kg	1.00		94.8	30-150			
LCS (B031204-BS1)				Prepared: 05/26/11 Analyzed: 05/27/11						
Aroclor-1016	0.25	0.10	mg/Kg	0.250		100	40-140			
Aroclor-1016 [2C]	0.27	0.10	mg/Kg	0.250		110	40-140			
Aroclor-1260	0.23	0.10	mg/Kg	0.250		94.0	40-140			
Aroclor-1260 [2C]	0.23	0.10	mg/Kg	0.250		93.6	40-140			
Surrogate: Decachlorobiphenyl	*0.780*		mg/Kg	1.00		78.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.778*		mg/Kg	1.00		77.8	30-150			
Surrogate: Tetrachloro-m-xylene	*1.01*		mg/Kg	1.00		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.01*		mg/Kg	1.00		101	30-150			
LCS Dup (B031204-BSD1)				Prepared: 05/26/11 Analyzed: 05/27/11						
Aroclor-1016	0.26	0.10	mg/Kg	0.250		105	40-140	4.68	30	
Aroclor-1016 [2C]	0.28	0.10	mg/Kg	0.250		112	40-140	2.59	30	
Aroclor-1260	0.25	0.10	mg/Kg	0.250		98.4	40-140	4.61	30	
Aroclor-1260 [2C]	0.25	0.10	mg/Kg	0.250		101	40-140	7.44	30	
Surrogate: Decachlorobiphenyl	*0.790*		mg/Kg	1.00		79.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.805*		mg/Kg	1.00		80.5	30-150			
Surrogate: Tetrachloro-m-xylene	*1.03*		mg/Kg	1.00		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.06*		mg/Kg	1.00		106	30-150			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B031204 - SW-846 3540C											
Matrix Spike (B031204-MS1)		**Source: 11E0778-01**		Prepared: 05/26/11 Analyzed: 05/27/11							
Aroclor-1016	0.59	0.10	mg/Kg	0.250	0.0	**237**	*	40-140			MS-21
Aroclor-1016 [2C]	0.60	0.10	mg/Kg	0.250	0.0	**239**	*	40-140			MS-21
Aroclor-1260	0.45	0.10	mg/Kg	0.250	0.0	**178**	*	40-140			MS-21
Aroclor-1260 [2C]	0.41	0.10	mg/Kg	0.250	0.0	**163**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.814*		mg/Kg	1.00		81.4		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.741*		mg/Kg	1.00		74.1		30-150			
Surrogate: Tetrachloro-m-xylene	*1.05*		mg/Kg	1.00		105		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.956*		mg/Kg	1.00		95.6		30-150			
Matrix Spike Dup (B031204-MSD1)		**Source: 11E0778-01**		Prepared: 05/26/11 Analyzed: 05/27/11							
Aroclor-1016	0.55	0.10	mg/Kg	0.250	0.0	**219**	*	40-140	7.80	50	MS-21
Aroclor-1016 [2C]	0.54	0.10	mg/Kg	0.250	0.0	**217**	*	40-140	9.80	50	MS-21
Aroclor-1260	0.42	0.10	mg/Kg	0.250	0.0	**167**	*	40-140	6.46	50	MS-21
Aroclor-1260 [2C]	0.39	0.10	mg/Kg	0.250	0.0	**157**	*	40-140	3.75	50	MS-21
Surrogate: Decachlorobiphenyl	*0.723*		mg/Kg	1.00		72.3		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.649*		mg/Kg	1.00		64.9		30-150			
Surrogate: Tetrachloro-m-xylene	*1.02*		mg/Kg	1.00		102		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.936*		mg/Kg	1.00		93.6		30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
MS-21	Matrix spike and spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082 in Product/Solid	
Aroclor-1016	CT,NH,NY
Aroclor-1016 [2C]	CT,NH,NY
Aroclor-1221	CT,NH,NY
Aroclor-1221 [2C]	CT,NH,NY
Aroclor-1232	CT,NH,NY
Aroclor-1232 [2C]	CT,NH,NY
Aroclor-1242	CT,NH,NY
Aroclor-1242 [2C]	CT,NH,NY
Aroclor-1248	CT,NH,NY
Aroclor-1248 [2C]	CT,NH,NY
Aroclor-1254	CT,NH,NY
Aroclor-1254 [2C]	CT,NH,NY
Aroclor-1260	CT,NH,NY
Aroclor-1260 [2C]	CT,NH,NY

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2011
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page_____of_____

IIE 0778
203 737 4453

Company Name: YALE EHS
Address: 135 COLLEGE ST, STE 100
N. HAVEN, CT
Attention: STEVE MURDZIA
Project Location: KGL
Sampled By: S. MURDZIA

Telephone:
Project #
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ☑ WEBSITE
Fax #
Email: steven.murdzia@yale.edu
Format: ☒ PDF ☒ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED: PCB SOXHLET 8082

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	# of Containers	** Preservation	***Container Code
-01	KGL 122-36	5/25				S	G			
-02	KGL 220-36					S	G			
-03	KGL 217-36					S	G			

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments: EPA REGION 1 COMPLIANCE
ADJACENT CMU BLOCK - PAINTED

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 5/26/11
Received by: (signature)	Date/Time: 5/26/11 900
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☒ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Analytical Certification Form Required
○ RCP Analysis Certification Form Required
○ MA State DW Form Required PWSID # _____

ACCREDITED IN ACCORDANCE WITH nelac
AIHA Accredited Laboratory Environmental Lead & Industrial Hygiene

NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

(MARKED IN

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Yale EHS RECEIVED BY: MIK DATE: 5·26·11

1) Was the chain(s) of custody relinquished and signed? (Yes) No No CoC Included

2) Does the chain agree with the samples? (Yes) No

If not, explain:

3) Are all the samples in good condition? (Yes) No

If not, explain:

4) How were the samples received:

On Ice [X] Direct from Sampling [ ] Ambient [ ] In Cooler(s) [ ]

Were the samples received in Temperature Compliance of (2-6°C)? (Yes) No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun 6°C

5) Are there Dissolved samples for the lab to filter? Yes (No)

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? (Yes) No

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	3
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No (N/A) _____

Do all samples have the proper Base pH: Yes No (N/A) _____

Doc# 277

Rev. 1 May 2011

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

July 22, 2011

Steven Murdzia
Yale University
135 College Street, Suite 100
New Haven, CT 06510

Project Location: KGL
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 11G0422

Enclosed are results of analyses for samples received by the laboratory on July 15, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Yale University
135 College Street, Suite 100
New Haven, CT 06510
ATTN: Steven Murdzia

REPORT DATE: 7/22/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11G0422

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: KGL

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
A344	11G0422-01	Air	BKGD Rm 344	TO-10A/EPA 680 Modified	
A335	11G0422-02	Air	BKGD Rm 335	TO-10A/EPA 680 Modified	
A208A	11G0422-03	Air	BKGD Rm 208A	TO-10A/EPA 680 Modified	
A110	11G0422-04	Air	BKGD Rm 110	TO-10A/EPA 680 Modified	
FBI	11G0422-05	Air	Field Blank	TO-10A/EPA 680 Modified	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

TO-10A/EPA 680 Modified

Qualifications:

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Monochlorobiphenyls

11G0422-02[A335]

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Dichlorobiphenyls, Monochlorobiphenyls

11G0422-04[A110], 11G0422-05[FBI], 11G0422-01[A344], 11G0422-03[A208A]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: KGL
Date Received: 7/15/2011
Field Sample #: A344
Sample ID: 11G0422-01
Sample Matrix: Air
Sampled: 7/15/2011 12:43

Sample Description/Location: BKGD Rm 344
Sub Description/Location:

Flow Controller ID:
Sample Type:
Air Volume L: 1024

Work Order: 11G0422

TO-10A/EPA 680 Modified

Analyte	Total µg Results	Total µg RL	Flag	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Monochlorobiphenyls	ND	0.0020	V-20	ND	0.002	1	7/17/11 18:49	CJM
Dichlorobiphenyls	ND	0.0020		ND	0.002	1	7/17/11 18:49	CJM
Trichlorobiphenyls	0.0079	0.0020		0.0077	0.002	1	7/17/11 18:49	CJM
Tetrachlorobiphenyls	0.13	0.0040		0.12	0.0039	1	7/17/11 18:49	CJM
Pentachlorobiphenyls	0.21	0.0040		0.21	0.0039	1	7/17/11 18:49	CJM
Hexachlorobiphenyls	0.045	0.0040		0.044	0.0039	1	7/17/11 18:49	CJM
Heptachlorobiphenyls	ND	0.0060		ND	0.0059	1	7/17/11 18:49	CJM
Octachlorobiphenyls	ND	0.0060		ND	0.0059	1	7/17/11 18:49	CJM
Nonachlorobiphenyls	ND	0.010		ND	0.0098	1	7/17/11 18:49	CJM
Decachlorobiphenyl	ND	0.010		ND	0.0098	1	7/17/11 18:49	CJM
Total Polychlorinated biphenyls	0.39			0.38		1	7/17/11 18:49	CJM

Surrogates	% Recovery	% REC Limits	
Tetrachloro-m-xylene	111	50-125	7/17/11 18:49

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: KGL
Date Received: 7/15/2011
Field Sample #: A335
Sample ID: 11G0422-02
Sample Matrix: Air
Sampled: 7/15/2011 12:45

Sample Description/Location: BKGD Rm 335
Sub Description/Location:

Flow Controller ID:
Sample Type:
Air Volume L: 1016.4

Work Order: 11G0422

TO-10A/EPA 680 Modified

Analyte	Total µg Results	Total µg RL	Flag	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Monochlorobiphenyls	0.0021	0.0020	V-06	0.0021	0.002	1	7/17/11 19:28	CJM
Dichlorobiphenyls	ND	0.0020		ND	0.002	1	7/17/11 19:28	CJM
Trichlorobiphenyls	0.0096	0.0020		0.0094	0.002	1	7/17/11 19:28	CJM
Tetrachlorobiphenyls	0.16	0.0040		0.16	0.0039	1	7/17/11 19:28	CJM
Pentachlorobiphenyls	0.35	0.0040		0.35	0.0039	1	7/17/11 19:28	CJM
Hexachlorobiphenyls	0.081	0.0040		0.079	0.0039	1	7/17/11 19:28	CJM
Heptachlorobiphenyls	0.0077	0.0060		0.0076	0.0059	1	7/17/11 19:28	CJM
Octachlorobiphenyls	ND	0.0060		ND	0.0059	1	7/17/11 19:28	CJM
Nonachlorobiphenyls	ND	0.010		ND	0.0098	1	7/17/11 19:28	CJM
Decachlorobiphenyl	ND	0.010		ND	0.0098	1	7/17/11 19:28	CJM
Total Polychlorinated biphenyls	0.61			0.60		1	7/17/11 19:28	CJM

Surrogates	% Recovery	% REC Limits	
Tetrachloro-m-xylene	95.9	50-125	7/17/11 19:28

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: KGL
Date Received: 7/15/2011
Field Sample #: A208A
Sample ID: 11G0422-03
Sample Matrix: Air
Sampled: 7/15/2011 12:51

Sample Description/Location: BKGD Rm 208A
Sub Description/Location:

Flow Controller ID:
Sample Type:
Air Volume L: 1020.6

Work Order: 11G0422

TO-10A/EPA 680 Modified

Analyte	Total µg Results	Total µg RL	Flag	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Monochlorobiphenyls	ND	0.0020	V-20	ND	0.002	1	7/17/11 20:07	CJM
Dichlorobiphenyls	ND	0.0020		ND	0.002	1	7/17/11 20:07	CJM
Trichlorobiphenyls	0.0057	0.0020		0.0056	0.002	1	7/17/11 20:07	CJM
Tetrachlorobiphenyls	0.044	0.0040		0.043	0.0039	1	7/17/11 20:07	CJM
Pentachlorobiphenyls	0.042	0.0040		0.041	0.0039	1	7/17/11 20:07	CJM
Hexachlorobiphenyls	0.0093	0.0040		0.0091	0.0039	1	7/17/11 20:07	CJM
Heptachlorobiphenyls	ND	0.0060		ND	0.0059	1	7/17/11 20:07	CJM
Octachlorobiphenyls	ND	0.0060		ND	0.0059	1	7/17/11 20:07	CJM
Nonachlorobiphenyls	ND	0.010		ND	0.0098	1	7/17/11 20:07	CJM
Decachlorobiphenyl	ND	0.010		ND	0.0098	1	7/17/11 20:07	CJM
Total Polychlorinated biphenyls	0.10			0.099		1	7/17/11 20:07	CJM

Surrogates	% Recovery	% REC Limits	
Tetrachloro-m-xylene	87.8	50-125	7/17/11 20:07

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: KGL
Date Received: 7/15/2011
Field Sample #: A110
Sample ID: 11G0422-04
Sample Matrix: Air
Sampled: 7/15/2011 12:58

Sample Description/Location: BKGD Rm 110
Sub Description/Location:

Flow Controller ID:
Sample Type:
Air Volume L: 1185.6

Work Order: 11G0422

TO-10A/EPA 680 Modified

Analyte	Total µg Results	Total µg RL	Flag	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Monochlorobiphenyls	ND	0.0020		ND	0.0017	1	7/18/11 12:13	CJM
Dichlorobiphenyls	ND	0.0020	V-20	ND	0.0017	1	7/18/11 12:13	CJM
Trichlorobiphenyls	0.020	0.0020		0.016	0.0017	1	7/18/11 12:13	CJM
Tetrachlorobiphenyls	0.19	0.0040		0.16	0.0034	1	7/18/11 12:13	CJM
Pentachlorobiphenyls	0.32	0.0040		0.27	0.0034	1	7/18/11 12:13	CJM
Hexachlorobiphenyls	0.063	0.0040		0.053	0.0034	1	7/18/11 12:13	CJM
Heptachlorobiphenyls	ND	0.0060		ND	0.0051	1	7/18/11 12:13	CJM
Octachlorobiphenyls	ND	0.0060		ND	0.0051	1	7/18/11 12:13	CJM
Nonachlorobiphenyls	ND	0.010		ND	0.0084	1	7/18/11 12:13	CJM
Decachlorobiphenyl	ND	0.010		ND	0.0084	1	7/18/11 12:13	CJM
Total Polychlorinated biphenyls	0.60			0.51		1	7/18/11 12:13	CJM

Surrogates	% Recovery	% REC Limits	
Tetrachloro-m-xylene	95.9	50-125	7/18/11 12:13

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: KGL
Date Received: 7/15/2011
Field Sample #: FBI
Sample ID: 11G0422-05
Sample Matrix: Air
Sampled: 7/15/2011 00:00

Sample Description/Location: Field Blank
Sub Description/Location:

Flow Controller ID:
Sample Type:

Work Order: 11G0422

TO-10A/EPA 680 Modified

Analyte	Total µg Results	RL	Flag	Dilution	Date/Time Analyzed	Analyst
Monochlorobiphenyls	ND	0.0020		1	7/18/11 12:47	CJM
Dichlorobiphenyls	ND	0.0020	V-20	1	7/18/11 12:47	CJM
Trichlorobiphenyls	ND	0.0020		1	7/18/11 12:47	CJM
Tetrachlorobiphenyls	ND	0.0040		1	7/18/11 12:47	CJM
Pentachlorobiphenyls	ND	0.0040		1	7/18/11 12:47	CJM
Hexachlorobiphenyls	ND	0.0040		1	7/18/11 12:47	CJM
Heptachlorobiphenyls	ND	0.0060		1	7/18/11 12:47	CJM
Octachlorobiphenyls	ND	0.0060		1	7/18/11 12:47	CJM
Nonachlorobiphenyls	ND	0.010		1	7/18/11 12:47	CJM
Decachlorobiphenyl	ND	0.010		1	7/18/11 12:47	CJM
Total Polychlorinated biphenyls	0.0			1	7/18/11 12:47	CJM

Surrogates	% Recovery	% REC Limits	
Tetrachloro-m-xylene	81.8	50-125	7/18/11 12:47

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-TO-10A/EPA 680 Modified

Lab Number [Field ID]	Batch	Initial [Cartridge	Final [mL]	Date
11G0422-01 [A344]	B033775	1.00	1.00	07/15/11
11G0422-02 [A335]	B033775	1.00	1.00	07/15/11
11G0422-03 [A208A]	B033775	1.00	1.00	07/15/11
11G0422-04 [A110]	B033775	1.00	1.00	07/15/11
11G0422-05 [FBI]	B033775	1.00	1.00	07/15/11

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

PCB Homologues by GC/MS - Quality Control

Analyte	Total µg Results	Total µg RL	ug/m3 Results	ug/m3 RL	Spike Level Total µg	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch B033775 - SW-846 3540C											
Blank (B033775-BLK1)					Prepared: 07/15/11 Analyzed: 07/18/11						
Monochlorobiphenyls	ND	0.0020									
Dichlorobiphenyls	ND	0.0020									
Trichlorobiphenyls	ND	0.0020									
Tetrachlorobiphenyls	ND	0.0040									
Pentachlorobiphenyls	ND	0.0040									
Hexachlorobiphenyls	ND	0.0040									
Heptachlorobiphenyls	ND	0.0060									
Octachlorobiphenyls	ND	0.0060									
Nonachlorobiphenyls	ND	0.010									
Decachlorobiphenyl	ND	0.010									
Total Polychlorinated biphenyls	0.0										
Surrogate: Tetrachloro-m-xylene	*0.178*				*0.200*		*88.9*	*50-125*			
LCS (B033775-BS1)					Prepared: 07/15/11 Analyzed: 07/18/11						
Monochlorobiphenyls	0.15	0.0020			0.200		74.7	40-140			
Dichlorobiphenyls	0.12	0.0020			0.200		61.8	40-140			
Trichlorobiphenyls	0.13	0.0020			0.200		66.2	40-140			
Tetrachlorobiphenyls	0.27	0.0040			0.400		66.4	40-140			
Pentachlorobiphenyls	0.28	0.0040			0.400		68.8	40-140			
Hexachlorobiphenyls	0.26	0.0040			0.400		64.5	40-140			
Heptachlorobiphenyls	0.42	0.0060			0.600		69.7	40-140			
Octachlorobiphenyls	0.48	0.0060			0.600		79.2	40-140			
Nonachlorobiphenyls	0.21	0.010			0.200		107	40-140			
Decachlorobiphenyl	0.78	0.010			1.00		78.4	40-140			
Surrogate: Tetrachloro-m-xylene	*0.170*				*0.200*		*85.2*	*50-125*			
LCS Dup (B033775-BSD1)					Prepared: 07/15/11 Analyzed: 07/18/11						
Monochlorobiphenyls	0.16	0.0020			0.200		79.2	40-140	5.90	50	
Dichlorobiphenyls	0.15	0.0020			0.200		74.5	40-140	18.6	50	
Trichlorobiphenyls	0.14	0.0020			0.200		69.9	40-140	5.47	50	
Tetrachlorobiphenyls	0.29	0.0040			0.400		71.4	40-140	7.30	50	
Pentachlorobiphenyls	0.30	0.0040			0.400		74.7	40-140	8.29	50	
Hexachlorobiphenyls	0.29	0.0040			0.400		72.1	40-140	11.1	50	
Heptachlorobiphenyls	0.48	0.0060			0.600		80.1	40-140	13.9	50	
Octachlorobiphenyls	0.56	0.0060			0.600		92.9	40-140	15.9	50	
Nonachlorobiphenyls	0.24	0.010			0.200		122	40-140	13.1	50	
Decachlorobiphenyl	0.88	0.010			1.00		88.2	40-140	11.8	50	
Surrogate: Tetrachloro-m-xylene	*0.159*				*0.200*		*79.4*	*50-125*			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
TO-10A/EPA 680 Modified in Air	
Total Polychlorinated biphenyls	AIHA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
EAST LONGMEADOW, MA 01028

Page ____ of ____

11G0422

Company Name: ~~[illegible]~~ YALE EHS
Address: 135 COLLEGE ST, STE 100
NEW HAVEN, CT 06510
Attention: STEVE MURDZIA
Project Location: KGL
Sampled By: S. MURDZIA

Telephone: (203) 737-4453
Project #
Client PO #

DATA DELIVERY (check one): ☐FAX ☒EMAIL ☐WEBSITE CLIENT
Fax # :
Email: steven.murdzia@yale.edu
Format: ☒ EXCEL ☒ PDF ☐ GIS KEY ☐ OTHER___

Proposal Provided? (For Billing purposes)
☐ yes _____ proposal date YALE RATE

Please fill out completely, sign, and retain the yellow copy for your records.

Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.

Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.

Field ID	Sample Description	Media	Lab #	Date Sampled Start Date Time	Date Sampled Stop Date Time	Total Minutes Sampled	Flow Rate M^3/Min. or L / Min.	Volume Liters or M^3	Matrix Code*	ANALYSIS REQUESTED: PCB + HOMOLOGUES				" Hg Initial pressure	" Hg Final pressure	" Hg Lab Receipt pressure	Summa Canister ID	Flow Controller ID
A344	BKGD RM 344	PUF	01	939	1243	244	4.2	1024										
A335	BKGD RM 335		02	943	1245	242	4.2	1016.4										
A208A	BKGD RM 208A		03	948	1251	243	4.2	1020.6										
A110	BKGD RM 110		04	951	1258	247	4.8	1185.6										
FB1	FIELD BLANK		05					–										

Laboratory Comments:
EPA REG. 1
SOXHLET EXTRACT
HOMOLOGUE
50M

CLIENT COMMENTS:

Relinquished by: (signature)	Date/Time: 7/15/11
Received by: (signature) Paula Blakeley	Date/Time: 1700 7/15/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround **
☐ 7-Day
☐ 10-Day
☐ Other ___
RUSH *
☐ *24-Hr ☐ *48-Hr
☐ *72-Hr ☐ *4-Day
*Approval Required

Special Requirements
Regulations:
Data Enhancement/RCP? ☐ Y ☐ N
Enhanced Data Package ☐ Y ☐ N
(Surchage Applies)
Required Detection Limits:
Other:

***Matrix Code:**
SG= SOIL GAS
IA= INDOOR AIR
AMB=AMBIENT
SS = SUB SLAB
D = DUP
BL = BLANK
O = other_____

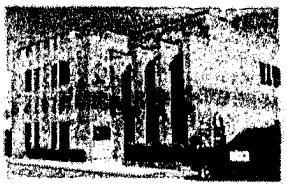
****Media Codes:**
S=summa can
TB=tedlar bag
P=PUF
T=tube
F= filter
C=cassette
O = Other_____

** TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AIHA, NELAC & WBE/DBE Certified

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY



Sample Receipt Checklist

CLIENT NAME: Yale **RECEIVED BY:** PB **DATE:** 7·15·00

1) Was the chain(s) of custody relinquished and signed? (Yes) No **No CoC Included**

2) Does the chain agree with the samples? (Yes) No

If not, explain:

3) Are all the samples in good condition? (Yes) No

If not, explain:

4) How were the samples received:

On Ice ☐ Direct from Sampling ☒ Ambient ☒ In Cooler(s) ☐

Were the samples received in Temperature Compliance of (2-6°C)? Yes No (N/A)

Temperature °C by Temp blank _____ Temperature °C by Temp gun —

5) Are there Dissolved samples for the lab to filter? Yes (No)

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes (No)

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	5
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No N/A _____

Do all samples have the proper Base pH: Yes No N/A _____

Doc# 277

Rev. 1 Ma

KLINE GEOLOGY BUILDING - PROJECT SUMMARY

ConTest Analytical Laboratory Job Numbers: 11B0504, 11C0680, 11D0102, 11D0273, 11D0523, 11E0395, & 11E0778

A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.

Samples were received at 5.6, 5.8, 5.9, and 6.0 degrees Celsius and at ambient temperature. Samples received at ambient temperature were collected the same day. No qualifications will be applied.

PCBs:

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB surrogates met acceptance criteria (30-150%) or were diluted out with the following exceptions:

LAB ID	SAMPLE ID	TCX (%/%)	DCB (%/%)	QUALIFIER
11D0273-02	KGL 201-AX	326/309	299/289	J, Aroclor-1254

TCX = tetrachloro-m-xylene DCB = decachlorobiphenyl

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications will be applied.

The PCB field blank sample Wipe Blank (11C0680-08) was ND for all target analytes. No qualifications will be applied.

The PCB matrix spike/matrix spike duplicate (MS/MSD) performed on samples KGLE203A (11B0504-16), 102EX (11C0680-12), KGL335 18 (11D0523-01), and KGL122-36 (11E0778-01) met acceptance criteria with the following exceptions:

LAB ID	SAMPLE ID	PCB-1016 (%) MS/MS/MSD/MSD	PCB-1260 (%) MS/MS/MSD/MSD	QUALIFIER
11C0680-12	102EX	302/319/306/327	280/287/272/297	J, Aroclor-1254
11D0523-01	KGL 335 18	591/450/479/378	207/180/178/158	J, Aroclor-1254
11E0778-01	KGL122-36	237/239/219/217	178/163/167/157	J, Aroclor-1254

The PCB laboratory control samples (LCS) and/or laboratory control sample duplicates (LCSD) met acceptance criteria. No qualifications will be applied.

No PCB field duplicate samples were submitted with these analytical packages. No qualifications will be applied.

The relative percent difference (RPD) between the column results for all detected PCBs met acceptance criteria (≤25%) with the following exceptions:

LAB ID	SAMPLE ID	PCB	RPD	QUALIFIER
11B0504-01	KGL111-A	1248	32.2	J
11D0102-02	KGL 111-15 CMU	1248	26.1	J

Many samples were analyzed at a dilution due to the high concentration of PCBs present in the sample or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilution performed.

ConTest Analytical Laboratory Job Numbers: 11B0504, 11C0680, 11D0102, 11D0273, 11D0523, 11E0395, & 11E0778

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

Gloria J. Switalski:
President

Date: 6/6/2011

KLINE GEOLOGY LABORATORY INDOOR AIR MONITORING
PROJECT SUMMARY

ConTest Analytical Laboratory Job Number: 11G0422

A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.

The air samples were received at ambient temperature. No qualifications will be applied.

PCB Homologs:

All polychlorinated biphenyl compound (PCB) homolog samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB homolog surrogates met acceptance criteria. No qualifications will be applied.

The PCB homolog method blanks were non-detect (ND) for all target analytes. No qualifications will be applied.

The PCB homolog field blank sample FB1 (11G0422-05) was ND for all target analytes. No qualifications will be applied.

No PCB homolog matrix spike/matrix spike duplicate (MS/MSD) was performed since these were air samples. No qualifications will be applied.

The PCB homolog laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) met acceptance criteria. No qualifications will be applied.

No PCB homolog field duplicate samples were submitted with this analytical package. No qualifications will be applied.

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

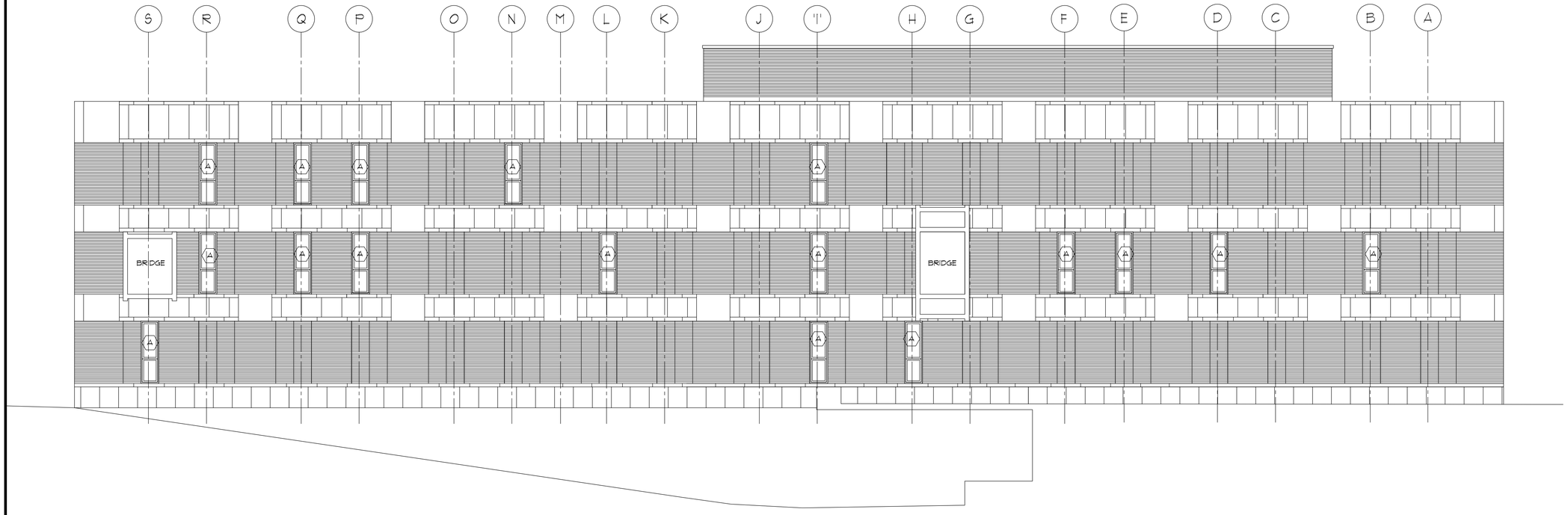
Gloria J. Switalski:
President

Date: 8/2/2011

Project # 224415

APPENDIX C: PROJECT SPECIFICATION DRAWINGS

1 A3.1 EAST ELEVATION
1/8"=1'-0"



2 A3.1 SOUTH ELEVATION
1/8"=1'-0"

Yale University

Central Campus

Office of Facilities
2 Whitney Avenue
New Haven, CT 06520

DAVID THOMPSON ARCHITECTS LLC
1211 Chapel Street
New Haven, Connecticut 06511
P: (203) 624-4266
F: (203) 624-3566

NO.	DATE	REVISION

PROJECT NAME
Selective Renovations for
KGL
WINDOW REPLACEMENT
Yale University

BUILDING NAME & ADDRESS
Kline Geology Laboratory
210 Whitney Avenue
New Haven, Connecticut

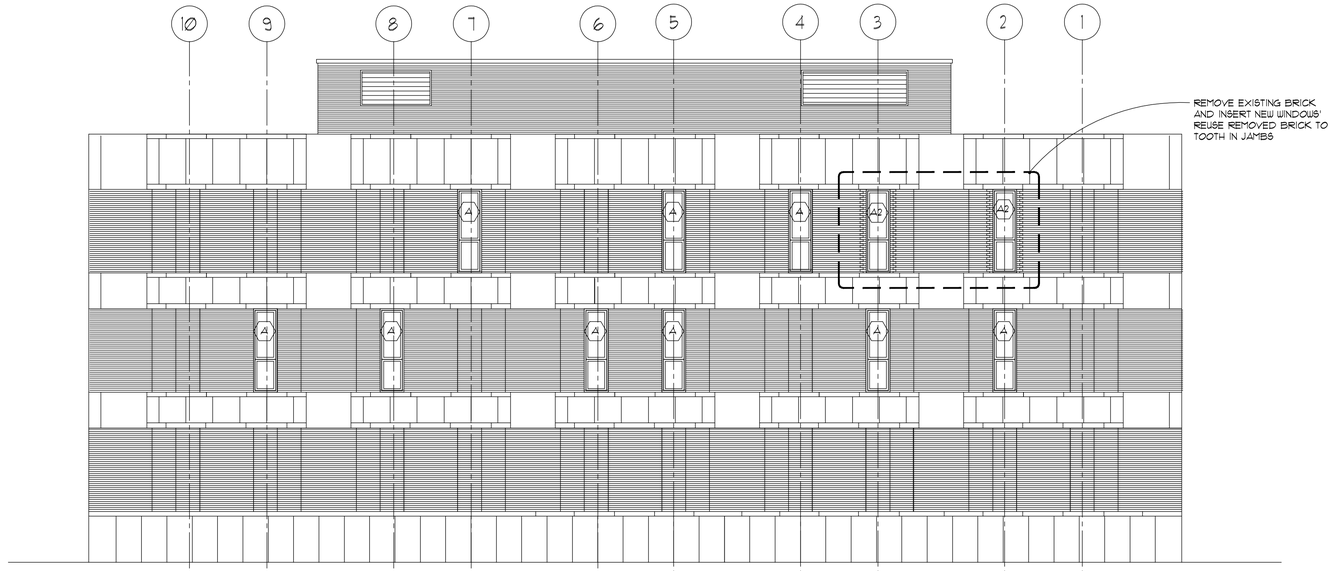
YALE PROJECT NUMBER

DRAWING TITLE
EAST & SOUTH ELEVATIONS
1/8"=1'-0" DTA

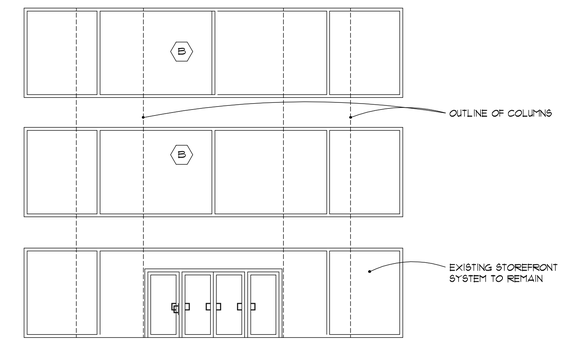
CAD FILENAME

DATE
4/4/11

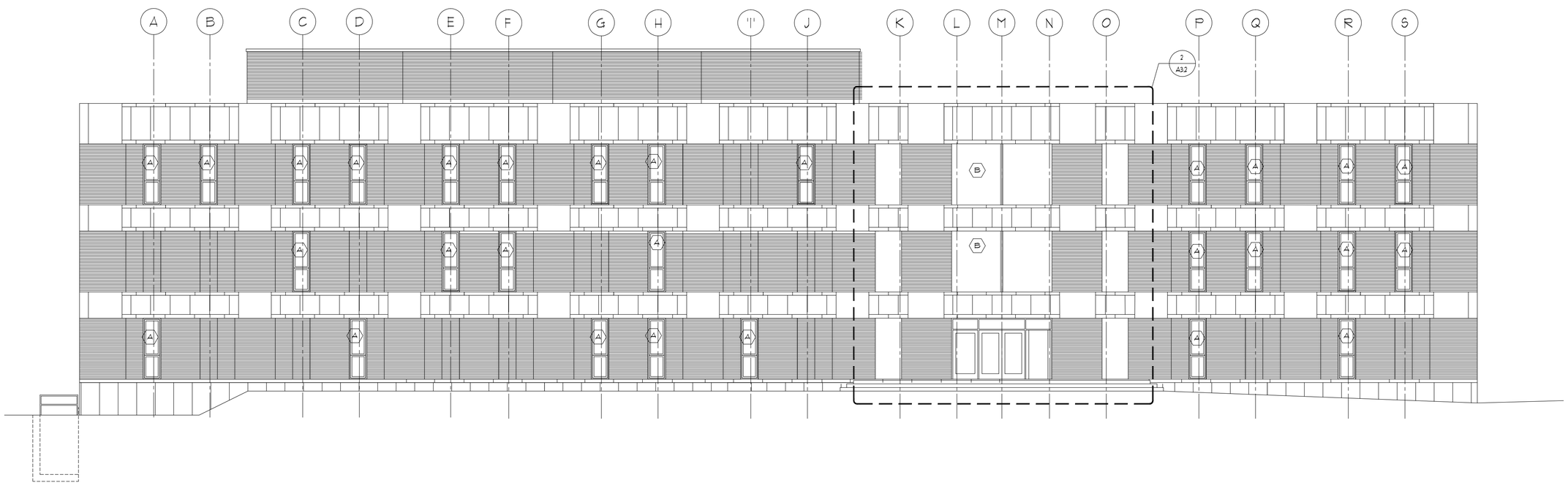
DRAWING NUMBER
A3.1



1 / A3.2 WEST ELEVATION
1/8"=1'-0"



2 / A3.2 FULL ELEVATION OF ENTRY WINDOWS
1/8"=1'-0"



3 / A3.2 NORTH ELEVATION
1/8"=1'-0"

Yale University

Central Campus

Office of Facilities
2 Whitney Avenue
New Haven, CT 06520

DAVID THOMPSON ARCHITECTS LLC
1211 Chapel Street
New Haven, Connecticut 06511
P: (203) 624-4266
F: (203) 624-3566

NO.	DATE	REVISION

PROJECT NAME
Selective Renovations for
KGL
WINDOW REPLACEMENT
Yale University

BUILDING NAME & ADDRESS
Kline Geology Laboratory
210 Whitney Avenue
New Haven, Connecticut

YALE PROJECT NUMBER

DRAWING TITLE
WEST & NORTH ELEVATIONS
1/8"=1'-0"
DTA

CAD FILENAME

DATE
3/18/11

DRAWING NUMBER
A3.2

APPENDIX D: PERIMETER AIR MONITORING PLAN AND LOG SHEET

Airborne particulate matter (PM) consists of many different substances suspended in air in the form of particles (solids or liquid droplets) that vary widely in size. Inhalation hazards may be presented if the intake of these particles includes intake of vapors and/or contaminated dust. Particles less than 10 micrometers in diameter (PM-10), which include both respirable fine (less than 2.5 micrometers) and coarse (less than 10 micrometers) dust particles, pose the greatest potential health concern because they can pass through the nose and throat and get into the lungs.

During the performance of the planned remediation activities, particulate matter in the form of potentially PCB-affected dust may be generated. The greatest potential for the generation of affected dust is during the removal of PCB containing caulking.

As indicated in the remediation plan, the main dust control mechanism to be employed on the project will be the use of engineering controls (e.g. wet techniques and misting), polyethylene containment structures, and personal protective equipment (PPE). In addition, particulate air monitoring will be conducted during intrusive or dust-generating activities in the Support Work Zone (SWZ) and perimeter to the SWZ. The SWZ is the area just outside of the active work areas, in designated safe work zones or support zones. Particulate air monitoring will determine if fugitive dust particles are present in the ambient air within the designated SWZ and/or perimeter during active removal activities. A direct-reading particulate meter will be used to monitor airborne particulate concentrations during site activities. Particulate concentrations shall be utilized as an indirect indicator of exposures to on-site receptors.

Dust concentrations in the SWZ will be measured using a suitable real time aerosol particulate monitor capable of determining ambient air fugitive dust concentrations to 0.001 milligrams per cubic meter (mg/m^3). Air monitoring shall be conducted while active removal activities are occurring and at a frequency of one reading every two hours during active dust generating activities. Prior to the active removal actions and at periodic points during the project, air monitoring readings will be recorded to document background particulate matter concentrations.

If total particulate concentrations in the SWZ exceed the action limits (as specified below and incorporating background readings) and are sustained (i.e. greater than 5 minutes), then the following actions will be taken:

- Engineering controls (HEPA filtration, containment, etc.) will be inspected to insure proper operation;
- Work practices will be evaluated:
- Additional dust suppression techniques to mitigate fugitive dust shall be initiated.

Any additional dust suppression techniques shall involve the application of a fine mist of water over the area creating the fugitive dust condition. The water shall be applied either by small hand held sprayers or sprinklers. In the event that the total of airborne particulate cannot be maintained below the action limit in the SWZ, then work activities shall be ceased until sustained readings are below the action limit or the SWZ designation is re-evaluated.

OSHA has published the following permissible exposure limits (8 hour time weighted average) for air contaminants (29 CFR 1910.1000):

Air Contaminant	PEL (8-hour TWA)
Total Dust	15 mg/m^3
Respirable Dust Fraction	5 mg/m^3
PCBs (42% Chlorine)	1 mg/m^3
PCBs (54% Chlorine)	0.5 mg/m^3

In addition, EPA has established a National Ambient Air Quality Standard for PM-10 of 0.150 mg/m^3 (24-hr average).

A total airborne particulate action limit has been established for the building material removal work to be conducted at the Kline Geology Laboratory with consideration of the specific receptors, PCB concentrations, work activities, and

OSHA permissible exposure limits. The action limit applies only to air monitoring within the SWZ and perimeter to the SWZ; an action limit has not been set for the active work zones (exclusion zones) as engineering controls and PPE will be used within these zones.

Given the residential nature of surrounding buildings and the anticipated PCB concentration in dust that may be generated during abatement activities, a conservative action limit of 0.1 mg/m^3 above background will be maintained during site work. Air monitoring at a location representative of background air conditions (i.e. a location upwind without active remedial activities in progress) will be conducted at the same frequency as SWZ monitoring to obtain data representative of real-time background conditions. The action limit will be used to determine if and when additional engineered controls and/or work stoppages would be necessary.

AIR MONITORING FORM
PCB Remediation Activities
Kline Geology Laboratory
New Haven, Connecticut

Air Monitoring Location: _____

Date	Time	Dust Level mg/M^3	Temperature ^oF	Weather Conditions	Current Site Activity	NOTES

APPENDIX E: PRODUCT TECHNICAL SPECIFICATIONS

FiberTech$_{tm}$ Encasement Products

F50 Penetrating-Primer

F50 Penetrating-Primer

(a water-based primer-sealer)

Stabilizing Elastomeric Encapsulant

PRODUCT DESCRIPTION

F50 is a water-based, clear, non-toxic primer that penetrates, stabilizes and seals friable damaged paint and asbestos fiber containing insulation materials. Properly applied, F50 can be installed without disturbing hazardous dusts or fibers.

F50 has tenacious adhesion qualities and shrinks as it dries to form a clear, tacky, protective membrane that has superior low temperature flexibility and an elongation of 4000% at 70°F.

F50 is an excellent primer to stabilize damaged interior or exterior painted surfaces including walls and eaves, ceilings, old or new wood, window sills, duct and pipe insulation, over fiber reinforced plaster, asbestos containing fireproofing insulation on steel or concrete, Transite, and fiber glass duct insulation surfaces.

F50 is ready to use and should not be diluted before application.

F50 Penetrating-Primer is to be overcoated with F51 Sealer-Coat to form an Encasement System that can be warranted for 5 to 20 years (see Limited Warranty for details).

BENEFITS:

Minimal Surface Preparation.
Safely Stabilizes Aging Paint and Friable Insulation Surfaces.
Reduces or Eliminates Disturbing Hazardous Materials and Minimizes Waste Disposal.
Safe & Easy to Use, Non-toxic, Cleanup is with Water & Soap.
Lowers Job-site Liabilities.
Seals, Stabilizes & Protects Building Surfaces as it Adds Sound & Insulation Qualities.

TECHNICAL DATA:

- ASTM E1795-97, Non-toxic, passed all tests when used with F50 Elastomeric Protective-Skin (interior and exterior approvals).
- ASTM E84-99, Surface Burning Characteristics, Class I, Flame Spread Index = 10, Smoke Developed Index = 15, *(this is equal to NFPA 255, ANSI/UL #723, and UBC 8-1).*
- ASTM E119-98, 3-hour Fire Test (no negative effect on fireproofing performance).
- ASTM E1494-92, 2-hour Fire Test of encased fireproofing on a steel deck (no negative effect on fireproofing performance).
- Passed University of Pittsburgh Combustion Toxicological Testing Protocol *(no acute lethality of thermal decomposition products).*
- ASTM E162-98, Surface Flammability with a Radiant Energy Source, (F_S x Q = I_S).
- ASTM E736-93, Passed Cohesion Adhesion Testing (over 300 psi).
- ASTM D-3960, Zero VOC's.
- ASTM D-1653, (0.6 perms).
- Viscosity = 90 to 100 KU
- Solids by volume 45% (+/-5%).
- Weight = 8.7 lb. per gallon.
- Liquid appearance - milky white.
- Dries to a clear "tacky" finish.
- Re-coat time – 1 to 24 hours.

MAINTENANCE

Periodic inspections of Encasement Systems help ensure extended performance and reduced costs.

INSTALLATION

Apply with air-less sprayer, (#17 to #23 tip) brush or roll.
Apply at temperatures at or above 50°F to 100°F.
Apply only to surfaces with moisture content of 5% or less (use moisture meter).
Coverage rates can be determined through a "Test-Patch" and refer to specific Instruction Guidelines for help estimating coverage rates on various types of substrates.
For painted surfaces a coverage rate of 100-150 sq. ft. per gallon, 10-16 wet mils is recommended.
For stabilizing fiber-containing insulation, a coverage rate of 40-150 sq. ft. per gallon is recommended.

WARRANTY

Various warranties are available for specific Encasement Systems installed by Trained Applicators.

Supplier:

ECI
36 Eagle Rock Way
Montclair, NJ 07042

FiberTech$_{tm}$ Encasement Products

F51 Sealer-Coat

F51 Sealer-Coat
(Water Based Top-Coat)
Specialty Elastomeric Encapsulant

PRODUCT DESCRIPTION

F51 is a water-based, high-solids, flexible acrylic coating that is rust- mold- dirt- weather- and fire-resistant. Suitable for application over friable damaged paint and fiber containing insulation, it bonds with F-50 Penetrating-Primer to form a tough, seamless, flexible protective enclosure.

F51 is excellent for use over interior or exterior surfaces and is suitable for application over walls and eaves, metal or Transite siding, textured ceilings, old wood, window sills, fiber glass duct and pipe insulation, fiber-reinforced plaster, and asbestos containing fireproofing insulation on structural steel or concrete.

F51 is ready to use and does not need to be thinned.

F51 safely bonds, seals, protects and isolates hazardous surfaces with a tough, flexible protective film that is highly impact-resistant, weather- and household chemical- resistant.

F50 Penetrating-Primer is to be overcoated with F51 Sealer-Coat to form an Encasement System that can be warranted for 5 to 20 years (see Limited Warranty for details).

BENEFITS:

Minimal Surface Preparation.
Safely Stabilizes Aging Paint and Friable Insulation Surfaces.
Reduces or Eliminates Disturbing Hazardous Materials and Minimizes Waste Disposal.
Safe & Easy to Use, Non-toxic, Cleanup is with Water & Soap.
Lowers Job-site Liabilities.
Seals, Stabilizes & Protects Building Surfaces as it Adds Sound & Insulation Qualities.

TECHNICAL DATA:

- ASTM E1795-97, Non-toxic, passed all tests when used with F51 Penetrating-Primer (interior and exterior approvals).
- ASTM E84-99, Surface Burning Characteristics, Class I, Flame Spread Index = 5, Smoke Developed Index = 5, *(this is equal to NFPA 255, ANSI/UL #723, and UBC 8-1).*
- ASTM E119-98, 3-hour Fire Test (no negative effect on fireproofing performance).
- ASTM E1494-92, 2-hour Fire Test of encased fireproofing on a steel deck (no negative effect on fireproofing performance).
- Highly resistant to mold, passes ASTM D3273/D3274.
- Low odor, safe to use material.
- Tensile Strength = 300 PSI after 2 weeks, ASTM D 412.
- Low Temperature flexibility: 180 degree bend @ -15°F.
- ASTM E736-93, Passed Cohesion Adhesion Testing (over 330 psi).
- ASTM D-3960, low VOC's (0.4 lbs/gallon = 52 grams/L).
- ASTM D-1653, (0.6 perms).
- Viscosity = 123 to 132 KU
- Solids by volume 54%.
- Weight = 12.0 lb. per gallon.
- Liquid appearance – white. (custom tints and colors are available).
- Drying Time @ 77°F: To touch- 1/2 hour, Recoat after 4 hours.
- Highly resistant to cracking, chipping or peeling.

MAINTENANCE

Periodic inspections of Encasement Systems help ensure extended performance and reduced costs.

INSTALLATION

Apply with air-less sprayer, (#17 to #23 tip) brush or roll.
Apply at temperatures at or above 50°F to 100°F.
Apply only to surfaces with moisture content of 5% or less (use moisture meter).
Coverage rates can be determined through a "Test-Patch" and refer to specific Instruction Guidelines for help estimating coverage rates on various types of substrates.
For painted surfaces a coverage rate of 100-150 sq. ft. per gallon, 10-16 wet mils is recommended.
For stabilizing fiber-containing insulation, a coverage rate of 40-150 sq. ft. per gallon is recommended.

WARRANTY

Various warranties are available for specific Encasement Systems installed by Trained Applicators.

Supplier:

ECI
36 Eagle Rock Way
Montclair, NJ 07042

KlenzSeal (penetrating oil and water repellant)

K & E Chemical Co., Inc.
3960 E. 93rd St.
Cleveland OH 44105

Advantages

Klenzseal can be applied to smooth or broomed concrete, paving stone, brick, grout, tile and other masonry surfaces. Dries clear on surface. Creates an easily cleanable surface for dirt, oil, grime, tar, soil, etc. Due to its water-based composition, Klenzseal is odorless and leaves a natural finish (no sheen) on the surface.

- Cost effective
- Contains no VOC's
- Non-flammable
- Environmentally friendly

Advanced Protection

KlenzSeal works by penetrating into the substrate. It is not topical. After being absorbed, KlenzSeal establishes a powerful chemical network within the substrate pores, keeping moisture and oil out. Besides keeping treated surfaces dry and making it easy to clean, because KlenzSeal does not block the pores, it permits essential vapor transmission.

Advanced Formula

KlenzSeal works invisibly and permits surfaces to breath.

Technical Data

Appearance/Odor Cloudy liquid, odorless.

Packaging 1 gallon, 5 gallon pails and 55 gallon drums

Minimum Temperature for application 45ºF

Storage/Shelf Life Keep material sealed in airtight factory containers and store in a cool dry place. When properly stored, material will keep for a minimum of 1 year from the date of purchase

Coverage- This will vary depending on the porosity of the surface. 200 to 350 sq ft. per gallon can be expected.

Preparations

Surfaces should be clean, dry and absorbent before sealing with KlenzSeal If surfaces are not new, they should be cleaned with KLENZTONE® first. Using KLENZTONE will insure klenzSeal achieves maximum penetration.

Directions

1. **Apply with sprayer or roller.** Be sure to wet surface thoroughly
2. **Allow to dry.** Surface will be dry in about an hour.

Note: klenzSeal works by absorbing into surfaces. KlenzSeal will reach its maximum water & oil repellancy in 24 hours.

Limitations

KlenzSeal is not meant to seal cracks.

Warning: Do not use klenzSeal on uncured concrete; KlenzSeal is not a curing compound.

Safety

See the Material Safety Data Sheet for more detailed hazard evaluation and safety information.

Notice: The information contained herein is based on our own research and the research of others, and it is provided solely as a service to help users. It is believed to be accurate to the best of our knowledge. However, no guarantee of its accuracy can be made, and it is not intended to serve as the basis for determining this product's suitability in any particular situation. For this reason, purchasers are responsible to make their own tests and assume all risks associated with using this product.

Manufactured By:

K & E Chemical Co., Inc.
"The Home of KLENZTONE"
3960 E. 93rd St.
Cleveland OH 44105 (216) 341-0500

Distributed By:

Environmental Coatings, Inc.
36 Eagle Rock Way
Montclair, NJ 07042
973-509-9456 Office 973-509-9460 Fax