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January 6, 2012

Ms. Kimberly Tisa
PCB Coordinator
U.S. Environmental Protection Agency Region 1
5 Post Office Square – Suite 100
Boston, Massachusetts 02109-3912

Re: PCB Remediation Plan
Grayson and Field Houses Window and Door Replacement Project
University of Massachusetts – Amherst Campus

Dear Ms. Tisa:

On behalf of the University of Massachusetts (UMass), please find attached a Remediation Plan prepared in accordance with the requirements for a risk-based cleanup and disposal request per 40 CFR 761.61(c). This plan describes the characterization data collected and details the proposed remedial plans for polychlorinated biphenyl (PCB) bulk product waste (original caulking and building materials coated with caulking) and PCB remediation waste (impacted building materials) at the Grayson House and Field House student dormitories located at 141 Orchard Hill Drive on the UMass Campus in Amherst, Massachusetts.

This work is being conducted as part of a building wide window and door replacement project scheduled to begin following the 2012 spring semester and be conducted during the summer break periods in 2012 and 2013.

The Grayson and Field Houses are part of a residential dormitory complex referred to as the Orchard Hill Area. The buildings in this area were constructed in consecutive years following similar building plans. In 2011, UMass completed PCB remediation activities at the Webster House, which is also located within the Orchard Hill Area. PCB remediation was completed in accordance with EPA's July 5, 2011 PCB Decontamination and Disposal Approval granted under 40 CFR 761.61(c) and 761.79(h).

As described in Section 3 of this PCB Remediation Plan, the proposed plan to address any impacted ground surfaces adjacent to the Orchard Hill Area buildings is to assess and remediate, if necessary, surfaces adjacent to the three buildings once the window replacement projects have been completed at the buildings. This will allow the remediation contractor access to the three buildings during the same mobilization and completion of the ground surfaces work surrounding the buildings as one removal project. A plan for remediation activities will be submitted, as needed, following the assessment of ground surfaces.

If you have any comments, questions, or require further information, please do not hesitate to contact me at the number listed above.

Sincerely,

WOODARD & CURRAN INC.

Jeffrey Hamel, LSP, LEP
Senior Vice President

cc: I. Chow, UMass
T. Bechta, UMass

PCB REMEDIATION PLAN

Grayson and Field Houses

University of Massachusetts

Amherst, Massachusetts

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January 2012

TABLE OF CONTENTS

SECTION		PAGE NO.
1.	**INTRODUCTION**	**1-1**
1.1	Background	1-1
1.2	Conceptual Site Model	1-1
1.3	Plan Organization	1-2
1.4	Certification	1-3
2.	**SAMPLE COLLECTION, ANALYSIS, AND DATA USABILITY**	**2-1**
2.1	Characterization Sample Collection	2-1
2.1.1	Sample Collection Methods	2-1
2.1.2	Laboratory Analysis	2-2
2.2	Characterization Sample Results	2-2
2.2.1	≥ 50 ppm Caulking/Sealants	2-2
2.2.2	< 50 ppm Caulking/Sealants	2-3
2.2.3	Adjacent Building Materials	2-3
2.3	Data Usability Assessment	2-3
3.	**REMEDIATION PLAN OVERVIEW**	**3-1**
4.	**PREPARATION, COMMUNICATIONS, AND CONTROLS**	**4-1**
5.	**WEST ELEVATION STOREFRONT WINDOW AND DOORS**	**5-1**
5.1	Characterization	5-1
5.2	Removal and Disposal	5-2
5.3	Building Material Verification Sampling	5-2
6.	**EAST ELEVATION STOREFRONT WINDOWS**	**6-1**
6.1	Characterization	6-1
6.2	Removal and Disposal	6-1
6.3	Building Material Verification Sampling	6-1
7.	**ELEVATOR HALL WINDOWS (TYPE D)**	**7-1**
7.1	Characterization	7-1
7.2	Removal and Disposal	7-1
7.3	Building Material Verification Sampling	7-2
8.	**NARROW STAIRWELL WINDOWS (TYPES G, H, AND I)**	**8-1**
8.1	Characterization	8-1
8.2	Removal and Disposal	8-1
8.3	Building Material Verification Sampling	8-1
9.	**STAIRWELL WINDOWS (TYPE J)**	**9-1**
9.1	Characterization	9-1
9.2	Removal and Disposal	9-1
9.3	Building Material Verification Sampling	9-2

10. ENCAPSULATON AND IN-PLACE MANAGEMENT 10-1

11. WASTE STORAGE AND DISPOSAL 11-1

12. CONCEPTUAL MONITORING AND MAINTENANCE PLAN 12-1

13. PROJECT SCHEDULE AND RESTORATION 13-1

14. RECORDKEEPING AND DOCUMENTATION 14-1

LIST OF TABLES

TABLE

Table 2-1: Summary of Sealant Characterization Sampling Results

Table 2-2: Summary of Adjacent Materials Characterization Sampling Results

Table 2-3: Summary of Excluded Product Material Determination

Table 3-1: Summary of Proposed Remedial Activities

Table 3-2: Summary of Proposed Verification Sampling

LIST OF FIGURES

FIGURE

Figure 1-1: Site Location Map

LIST OF APPENDICES

APPENDIX

Appendix A: Written Certification

Appendix B: Project Specification Drawings With Sample Locations

Appendix C: Laboratory Analytical Reports & Data Validation Summary

Appendix D: Perimeter Air Monitoring Plan

1. INTRODUCTION

This Remediation Plan (Plan) has been prepared by Woodard & Curran (W&C) on behalf of the University of Massachusetts (UMass) 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 Grayson House and Field House dormitories located within the Orchard Hill Residential Area at 141 Orchard Hill Drive on the UMass Campus in Amherst, Massachusetts (Figure 1-1).

The PCB remediation work is being incorporated into the building wide window and door replacement activities for dormitories within the Orchard Hill Area. In 2011, remediation activities were conducted at the Webster House (also located within the Orchard Hill Area) in accordance with the PCB Decontamination and Disposal Approval issued under 40 CFR 761.61 (c) and 761.79(h) and received by UMass on July 5, 2011. Remediation activities for the Grayson and Field Houses are scheduled to be completed as follows:

- 2012: Removal and replacement of first floor windows and doors on the west elevation and upper floor windows on the east elevation.

- 2013: Removal and replacement of first floor windows and doors on the east elevation and upper floor windows on the west elevation.

1.1 BACKGROUND

The Orchard Hill Residential Area was constructed in 1964 and 1965 and includes four residential dormitories for undergraduate students. The Grayson and Field Houses are located on the eastern side of the complex and were the first of the buildings constructed in 1964 and are constructed as a single structure with a stairway separating the two buildings (see Figure 1-1). The Dickinson House is located along the north side of the complex and the Webster House is located on the south side. The buildings are of similar construction including seven stories with dormitories on the second through seventh floors and common areas and meeting rooms on the first floors. The Grayson and Field Houses have a total footprint of approximately 22,000 square feet.

The Orchard Hill Residential area is surrounded by other dormitory buildings, parking areas, and open areas. Surrounding ground surfaces are generally flat or slightly sloped toward the building to the east and are either covered with grass, asphalt pavement, concrete, or landscaped areas.

1.2 CONCEPTUAL SITE MODEL

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. As indicated above, Grayson House and Field House were constructed during this time period.

As part of the window and door replacement project, a materials survey was conducted to check 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. Because of their similarities in construction, the characterization plan

developed for the Webster House remediation activities in 2011 was used as a basis for the materials survey and characterization samples collected from Grayson and Field Houses (EPA approval of the Webster House PCB Remediation plan was received by UMass on July 5, 2011).

Interior and exterior caulking and glazing sealant within the area subject to renovation work were observed during the survey and samples collected for analysis. The majority of the samples were collected from the Grayson House because the original scope of the window replacement activities was limited to the Grayson House. However, the scope was expanded in September 2011 to include windows and doors on the Field House. When the scope of the project was modified, samples of caulking and glazing sealants were collected from Field House locations to confirm the site model developed by the Grayson House data.

Results from the sealant sampling indicated that the majority of the samples were either non-detect or exhibited PCB concentrations < 50 ppm. However, PCBs were identified at concentrations ≥ 50 ppm in interior and exterior sealants on select windows at both the Grayson and Field Houses.

Characterization samples of building materials adjacent to the sealants containing PCBs ≥ 50 ppm were collected to determine the nature and extent of PCBs in 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 building materials adjacent to caulking containing PCBs ≥ 50 ppm; or, where adjacent material removal is infeasible, the in-place management of building materials impacted by PCBs at concentrations above the high occupancy use criteria of 1 ppm.

The current and anticipated schedule of work for the window and door replacement activities is to begin following the conclusion of the 2012 spring semester on west elevation first floor windows / doors and east elevation upper floor windows. Following the conclusion of the 2013 spring semester, east elevation first floor windows / doors and west elevation upper floor windows will be replaced. During each year, the majority of the work is anticipated to be completed prior to the return of students in the fall.

1.3 PLAN ORGANIZATION

This Remediation Plan is organized into the following sections:

Section 2: Sample Collection, Analyses, and Data Usability

This section provides a summary of the characterization data that have been collected to determine the nature and extent of PCBs in each media.

Section 3: Remediation Plan Overview

This section includes an overview of the remedial objectives and cleanup levels for the project.

Sections 4 through 9: Proposed Remedial Activities

The proposed remedial activities are presented for each of the windows identified as containing ≥ 50 ppm PCB caulking and/or glazing sealants, and a verification approach is proposed to demonstrate task completion.

Section 10: Encapsulation and In-Place Management

Section 11: Waste Storage and Disposal

Section 12: Conceptual Monitoring and Maintenance Plan

Section 13: Project Schedule and Restoration

Section 14: Recordkeeping and Documentation

1.4 CERTIFICATION

The following is information regarding the entity submitting this Plan:

University of Massachusetts
Environmental Health and Safety
40 Campus Center Way
Amherst, MA 01003-9244

Donald Robinson, PhD
Director, Environmental Health and Safety

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, ANALYSIS, AND DATA USABILITY

Results of the caulking and glazing sealant inventory were used to group materials based on location and physical description (this grouping was also developed based on the grouping applied during the Webster House remediation). Characterization sampling of the caulking and glazing sealants was conducted to collect representative samples of each of the identified materials observed, and subsequent rounds of sampling were conducted following an evaluation of the previous sampling results to close data gaps or to incorporate changes in the planned scope of work for the renovation project.

During characterization activities, samples were collected from interior and exterior caulking, interior and exterior glazing sealants, and from building materials adjacent to caulking in observance of proper sample collection techniques, analytical methods, and reporting procedures. This section provides a summary of the samples collected and the analytical results for those samples.

2.1 CHARACTERIZATION SAMPLE COLLECTION

A total of 96 samples were collected and analyzed for PCBs over multiple field events between August 10, 2011 and November 7, 2011. A breakdown of samples collected by media is provided below:

- Caulking Samples – 64 samples of caulking materials were collected and submitted for PCB analysis (Table 2-1);
- Glazing Sealant Samples – 26 samples of glazing sealant materials were collected and submitted for PCB analysis (Table 2-1); and
- Adjacent Materials – 6 samples of concrete, stucco, and slate were collected and submitted for PCB analysis from locations adjacent to caulking identified as containing ≥ 50 ppm PCBs (Table 2-2).

The locations of the characterization samples collected are presented on the project specification drawings included as Appendix B.

2.1.1 Sample Collection Methods

Caulking and glazing sealant samples were collected by cutting and scraping the caulking 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 (concrete and slate) sampling was conducted in accordance with the USEPA Region I Standard Operating Procedure for Sampling Porous Surfaces for PCBs (May 2011). The material was ground into dust using a hammer drill to a depth of 0.5 inches into the material at each sample location. Sample media was collected from surfaces by attaching a disposable trap beneath the sample location to gather the dust as it was generated.

Reusable sampling equipment was decontaminated between each location by scrubbing with a biodegradable soap and water solution (Alconox) followed by a water rinse and a final methanol rinse then allowed to air dry.

2.1.2 Laboratory Analysis

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 data presented in this report are provided in Appendix C.

2.2 CHARACTERIZATION SAMPLE RESULTS

Results of the characterization sampling indicated the majority of caulking at interior and exterior joints and glazing sealants contained PCBs at concentrations < 50 ppm. However, select samples detected PCBs at concentrations ≥ 50 ppm. A discussion of both of these categories of sealants is provided below.

2.2.1 ≥ 50 ppm Caulking/Sealants

A summary of the materials reported to contain ≥ 50 ppm PCBs, based on the windows/doors on which they were identified (based on the project specification drawings), is as follows:

- Type N-02 (West Elevation Storefront Windows and Doors): ≥ 50 ppm PCB-containing caulking was identified on a total of approximately 310 linear feet (l.f.) of exterior frame to masonry joints of storefront windows and doors along the western elevation of the Grayson and Field Houses (interior caulking at these windows was physically distinct from exterior caulking and reported to contain PCBs < 50 ppm, consistent with results from similar materials at other locations). Analytical results indicated that PCBs were present in the exterior caulking samples at concentrations of 66, 78, and 200 ppm. Exterior window glazing sealants were reported to contain PCBs at concentrations of 60, 150, and 170 ppm (one sample of interior glazing was reported as non-detect for PCBs with a reporting limit of 10 ppm);
- Type N—02 (East Elevation Storefront Windows and Doors): ≥ 50 ppm PCB-containing caulking was identified along two nine foot interior vertical frame to concrete masonry unit (CMU) block joints (total of approximately 18 l.f.) of storefront windows on the eastern elevation of the Field House. Analytical results indicated that PCBs were present at a concentration of 75 ppm. Similar to the exterior caulking samples on the east elevation, interior caulking samples collected from other east elevation joints of Grayson indicated that PCBs were non-detect or < 50 ppm. Analytical results also indicated that PCBs were non-detect in the two samples of exterior glazing sealants collected from east elevation windows;
- Type D (Elevator Hall Windows): ≥ 50 ppm PCB-containing caulking was identified on the interior upper horizontal caulked joints between the window frames and CMU block walls (6 l.f. per window for a total of approximately 288 l.f.) and along the interior vertical frame to frame joints between each pair of windows (6 l.f. per window pair for a total of approximately 144 l.f.). Analytical results indicated that PCBs were present at a concentration of 400 ppm in the horizontal caulked joints and at concentrations of 120,000 and 140,000 ppm in the vertical frame to frame joints. Total PCBs were reported as either non-detect or > 1 and < 50 ppm at interior caulking along the vertical window frame to CMU block wall joints, the exterior window caulking, and glazing sealants of the Elevator Hall Windows;
- Type G, H, and I (Narrow Stairwell Windows): ≥ 50 ppm PCB-containing caulking has been identified along approximately 114 l.f. of exterior frame to brick joints on the narrow stairwell windows along the west side of the northern stairwell of Grayson House. Analytical results indicated that PCBs were present at concentrations of 52 ppm in the two samples collected (analytical results from visually similar exterior caulking along other windows [excluding storefront windows] including the three other banks of narrow stairwell windows indicated that PCBs were either non-detect or present at concentrations > 1 and < 50 ppm); and

- Type J (Stairwell Windows): ≥ 50 ppm PCB-containing caulking was identified along approximately 378 l.f. of interior window frame to masonry joints (concrete and brick) on stairwell windows on the northern stairwell (Grayson House), the southern stairwell (Field House) and the eastern side of the central stairwell (between Grayson and Field House). Analytical results indicated that PCBs were present at concentrations of 63 and 170 ppm in the two samples collected (interior caulking on the western side of the central stairwell was visually distinct from these materials and reported to contain PCBs at a concentration of 24 ppm, consistent with results from similar materials at other locations).

2.2.2 < 50 ppm Caulking/Sealants

As indicated on Table 2-1, caulking and glazing sealants identified as containing < 50 ppm PCBs have been identified in joints associated with the majority of window and doors (except as noted above). These caulking and glazing sealants were grouped together based on location (interior or exterior) and physical appearance. Interviews with facilities personnel indicated that there have not been any large scale window or door replacement or renovation projects on the buildings, which were constructed in 1964. Any caulking installed after the original construction would have been installed in limited areas in response to isolated leaks or repairs around the building.

Based on this information, caulking and sealants containing < 50 ppm PCBs have been determined to meet the definition of an Excluded PCB Product per 40 CFR 761.3. The project specifications prepared for the renovation project will identify the specific windows/doors as having detectable concentrations of PCBs at these levels for management and disposal purposes. All caulking and glazing sealants have also been identified as asbestos containing materials (ACM). As such, the removal of these caulking and sealants will be performed under appropriate controls due to the classification as ACM and all materials will be designated for disposal as ACM with < 50 ppm PCBs at a facility permitted to accept such waste. A summary of the caulking and sealants classified as Excluded PCB Products including the groupings described above and analytical data supporting that classification is provided on Table 2-3.

2.2.3 Adjacent Building Materials

Samples of building materials adjacent to ≥ 50 ppm sealants were collected to determine the nature and extent of PCBs in these materials. Samples of exterior building materials were collected adjacent to the west elevation storefront windows and the narrow stairwell windows on the west elevation of the northern stairwell. Samples of interior building materials were collected adjacent to the stairwell windows (northern stairwell and central stairwell east side). Five samples of materials scheduled to remain in place were collected at a distance of one inch from the caulked joint (to determine the extent of PCBs). Analytical results indicated that PCBs were non-detect or < 1 ppm in all five of the samples. One sample of the stucco ceiling was collected at a distance of five inches from the caulked joint (for waste segregation purposes). Analytical results indicated that PCBs were present at a concentration of 0.15 ppm. Additional details of the building material sampling are included in subsequent sections of this plan. A summary of the samples collected and analytical results is included on Table 2-2.

2.3 DATA USABILITY ASSESSMENT

This data quality and data usability assessment has been conducted to review the 96 primary samples collected from the Grayson and Field Houses as part of the characterization sampling conducted. Data validation and review was conducted both by W&C and by a third-party validator, Data Check, Inc. of New Durham, New Hampshire. This 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, blank results, laboratory control standard (LCS) and laboratory control standard duplicate (LCSD) results, an evaluation of sample holding times, and field duplicate results. The assessment was performed in

general conformance with USEPA Region I Guidelines and the Quality Control Guidelines. Data validation summaries are provided in Appendix C.

A summary of the data usability assessment is presented below:

- Some samples were analyzed at dilutions due to the concentration of PCBs present in the samples and/or due to sample matrix. Elevated quantitation limits (laboratory reporting limits) are reported in these samples as a result of the dilutions performed. An attempt to remove interferences from the extract of several samples was conducted by passing the extract through an activated magnesium silicate column (Florisil® cleanup). In some instances the cleanup was successful in reducing the reporting limits; however, the interferences were not removed to a degree that would meet the lowest reporting limits for this project.
- Four duplicate samples were collected and submitted to the laboratory as part of the field QA/QC procedures. Three of the duplicates were collected from caulking/glazing sealants and one was collected from building materials. The relative percent difference (RPD) between each primary and duplicate sample pair met acceptance criteria, and no results were qualified as estimated due to the field duplicate precision results.
- Two field equipment blank samples were collected and submitted to the laboratory as part of the field QA/QC procedures. One sample was collected from non-disposable tools and equipment associated with the sampling of porous building materials (i.e., concrete, slate, etc.). One sample was collected following the completion of the first field sampling event for caulking and glazing sealants from the single piece of non-disposable equipment used to collect caulking (a chisel used to collect samples of the interior dormitory room window caulking, interior narrow stairwell caulking, and interior central stairwell west side windows). All other caulking and sealant samples were collected using disposable tools (i.e., utility knives with replacement blades). The blank samples were non-detect for the target analytes, and no qualifications were applied to the data.
- Certain sample results were qualified as estimated (J) if the RPD between the column results was outside of the acceptance criteria (≤25%); column results typically differ in solid matrices due to heterogeneities inherent to the sample matrix. All qualifiers applied to the data are included in the summary tables provided with this report.
- Accuracy of the analytical data was assessed by reviewing LCS/LCSD, and surrogate recoveries. The LCS/LCSD recoveries met acceptance criteria for all data sets, and no qualifiers were applied to the data. Two results were qualified as estimated (J) based on surrogate recoveries outside acceptance criteria; the remaining surrogate recoveries met acceptance criteria or were diluted out.
- Representativeness of the data was evaluated qualitatively utilizing site use information and sampling data. Samples were extracted and analyzed within allowable holding times. Consistent procedures and laboratory analysis of the data were achieved. Sample containers were packed on ice and were accompanied by complete chain of custody forms from the time of sample collection until laboratory delivery. PCBs were not detected in the laboratory method blank analyses, indicating that there were no interferences introduced at the laboratory during sample analysis.
- The data packages were reviewed to ensure that all sample and associated quality assurance results were available. The completeness review indicated that all samples were analyzed and all quality control results were available to complete the data validation process.

Based on a review of the collective data set, the data adequately represents the materials tested. The characterization data is of sufficient quality for the purposes of characterizing PCB-affected media in accordance with 40 CFR Part 761 and for use in developing the remediation plan presented herein.

3. REMEDIATION PLAN OVERVIEW

This Plan has been developed for the remediation of ≥ 50 ppm PCB-containing and PCB-impacted media that will be disturbed during the upcoming window and door replacement projects at the Grayson House and Field House. The project includes the removal and replacement of windows from the exterior of the building and select interior windows and doors (interior elevator lobby area doors). The locations and types of the windows are shown on the project specification drawings included as Appendix B.

The proposed remediation is a combination of removal and off-site disposal of PCB Bulk Product Waste under 40 CFR 761.62 with a risk-based cleanup and disposal prepared in accordance with 40 CFR 761.61(c) for PCB Remediation Wastes including the in-place management of PCB-impacted building materials.

In summary, the following caulking and/or glazing sealants have been identified as PCB Bulk Product Waste (i.e., have been determined to contain ≥ 50 ppm PCBs) and are subject to removal and off-site disposal in accordance with 40 CFR 761.62:

- Type N-02 (West Elevation Storefront Windows and Doors – Grayson and Field Houses) – Approximately 310 l.f. of exterior caulking and glazing sealants on frame to glass joints;

- Type N-02 (East Elevation Storefront Windows and Doors – Field House) – Approximately 18 l.f. of interior caulking along two frame to CMU vertical joints;

- Type D (Elevator Hall Windows – Grayson and Field Houses) – Interior caulking along upper horizontal frame to masonry caulked joint (approximately 288 l.f.) and along vertical frame to frame joints between each window pair (approximately 144 l.f.);

- Type G, H, and I (Narrow Stairwell Windows – Grayson House, northern stairwell) – Exterior caulking along approximately 114 l.f. of frame to masonry joints on the west elevation of the northern stairwell; and

- Type J (Stairwell Windows – Grayson and Field Houses) – Approximately 378 l.f. of interior frame to masonry joints on the northern stairwell (Grayson House), southern stairwell (Field House), and eastern elevation of the central stairwell (Grayson and Field).

Window and door frames and components coated or in direct contact with ≥ 50 ppm PCB caulking and glazing sealants will be segregated and removed for disposal with the caulking as ≥ 50 ppm PCB waste. Remaining portions of the windows and doors will either be disposed of as ≥ 50 ppm PCB wastes (along with the caulking and glazing sealants) or as < 50 ppm PCB wastes based on the concentrations of caulking or glazing sealant in direct contact with those components (including glass). The specific waste segregation / disposal approach will be determined by the Contractor.

Caulking along four vertical expansion joints (total of approximately 210 l.f.) on the north and south building elevations is scheduled for replacement. At this time, characterization of this caulking has not been conducted; however, two samples will be collected for PCB analysis prior to removal. Analytical results from the sampling will be evaluated as follows:

- Total PCBs ≥ 50 ppm – Caulking, backer rod, and materials scheduled for removal and in direct contact with the caulking will be removed for off-site disposal as ≥ 50 ppm PCB waste as described below. Verification samples of building materials will be collected for evaluation of PCB impacts to building materials as described below.

- Total PCBs < 50 ppm – Caulking, backer rod, and materials scheduled for removal will be removed for disposal as ACM with PCBs based on the as-found PCB concentrations.

The following paragraphs summarize the overall remedial approach:

The ≥ 50 ppm PCB-containing caulking and associated window and door frames and components will be removed as a single waste stream 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). Upon the completion of caulking and window/door component 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 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 of the caulking. All removed caulking, window frames and components (including glass), and associated debris coated or in direct contact with ≥ 50 ppm PCB caulking will be transported for off-site disposal as ≥ 50 ppm PCB waste with ACM in accordance with 40 CFR 761 Subpart D requirements (refer to Section 11 of this Plan).

Most building materials adjacent to the removed caulking, windows, and doors are not scheduled for removal during the project (with the exception of soffit materials along the west elevation storefront windows). Materials not scheduled for removal but identified as containing PCBs at concentrations above the high occupancy clean up criteria of 1 ppm 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 schedule impacts which could prevent the completion of the project within the designated time frames (i.e., work is scheduled to commence immediately following graduation and needs to be completed prior to the beginning of the fall semester).

The in-place management of PCB remediation waste is an interim measure 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. Accordingly, there will be no resultant exposure to PCBs. The residual PCBs therefore will not present a risk to human health or the environment. This approach is considered an interim measure, and will require proper disposal of any remaining PCB remediation waste upon removal of the material or at the time of building demolition. The encapsulation and in-place management approach is described in further detail in Section 10 of this Plan.

The determination as to whether or not building materials contain PCBs at concentrations > 1 ppm will be made through verification sampling following removal of caulking and caulk residues. Building material sampling will be conducted in accordance with the USEPA Region I Standard Operating Procedure for Sampling Porous Surfaces for PCBs (May 2011). All samples will be transported to the laboratory under standard Chain of Custody procedures, extracted using USEPA Method 3540C (Soxhlet extraction), and analyzed for PCBs using USEPA Method 8082. Analytical results from the samples will be compared to the high occupancy clean-up criteria of 1 ppm and if total PCBs are detected at concentrations > 1 ppm, then building materials will be encapsulated through the application of two coats of liquid coating to materials formerly in direct contact with caulking and across adjacent horizontal or vertical surfaces to established distances (as detailed in subsequent sections).

Verification samples will be collected from building materials located at specified distances from the caulking (as indicated in Sections 5 through 9) to verify the required extent of encapsulation away from the joint if results of the direct contact samples indicate that PCBs are present at concentrations > 1 ppm. Due to the overall project schedule, which requires installation of replacement windows as quickly as possible, these samples will be collected from locations adjacent to the direct contact samples and placed on hold with the analytical laboratory. Individual samples will be analyzed if the direct contact samples detect PCBs > 1 ppm.

Following application of the liquid encapsulant, verification wipe samples may be collected in accordance with the standard wipe test method as specified in 40 CFR 761.123. As with the verification bulk samples described above, in order to allow for the installation of the replacement windows, the liquid encapsulant may be applied to all materials formerly in direct contact with the caulked joints and not only those determined to contain PCBs > 1 ppm (i.e., applied prior to receipt of bulk sampling results). Following application, verification wipe samples will be collected at the same frequency as the bulk samples for each media and placed on hold with the analytical laboratory. Individual wipe samples will be analyzed if the bulk samples detect PCBs > 1 ppm.

As described in subsequent sections, a sheet metal cladding is planned to be installed in select areas as part of the new window design. This cladding will be installed over the adjacent building materials and be utilized as a final barrier to impacted building materials. Accordingly, there will be another containment barrier installed over the liquid encapsulated concrete in these areas, resulting in additional protections and conditions protective of human health and the environment. Long-term maintenance and monitoring of those surfaces required to be encapsulated will be implemented at the conclusion of remedial actions.

The Grayson and Field Houses are part of a residential dormitory complex referred to as the Orchard Hill Area. The buildings in this area were constructed in consecutive years following similar building plans. In 2011, UMass completed PCB remediation activities at the Webster House, which is also located within the Orchard Hill Area. PCB remediation was completed in accordance with EPA's July 5, 2011 PCB Decontamination and Disposal Approval granted under 40 CFR 761.61(c) and 761.79(h).

The proposed plan to address any impacted ground surfaces adjacent to the Orchard Hill Area buildings is to assess and remediate, if necessary, surfaces adjacent to the three buildings once the window replacement projects have been completed at the buildings. This will allow the remediation contractor access to the three buildings during the same mobilization and completion of the ground surfaces work surrounding the buildings as one removal project without impeding the window renovation project. A plan for remediation activities will be submitted, as needed, following the assessment of ground surfaces.

A summary of the remedial approach for the caulking, glazing sealants, windows and door frames and components, and adjacent building materials (including linear footages) is presented on Table 3-1. Details of remedial activities for each of the windows containing PCBs ≥ 50 ppm are included in Sections 5 through 9.

4. PREPARATION, COMMUNICATIONS, AND CONTROLS

Prior to initiating any of the remediation activities, the following activities will be implemented:

Preparation and Communications

- 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.
- Prior to initiation and periodically during the work activities, project-related communications with building employees 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. It is anticipated that the majority of the work will be conducted when the students are not in the building. Additional communications will also be performed through the University's web site.

Controls

- Access to the active work areas will be restricted by fencing and signage with controlled access points.
- 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.
- Remediation will be performed under engineering controls appropriate for an asbestos abatement as some caulking was reported as 2% chrysotile asbestos. For locations in which removal will be conducted from the interior of the building, engineering controls will include negative pressure controls. For locations in which removal will be conducted from the exterior side of the building, a containment barrier will be established at the interior side of the window and polyethylene sheeting will be used to control dust and debris along exterior locations. 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 dust generating removal activities such as saw cutting of the stucco overhang ceiling materials or the removal of residual caulking following window removal if methods of removal include the use of tools beyond standard hand tools or electric caulking removal tools. Based on the engineering controls to be implemented and the minimal amount of disturbance to the caulking required for window removal, dust monitoring will not be conducted during window removal activities alone.
- Ground cover (polyethylene sheeting or equivalent) will be placed 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 remediation waste as described in Section 11.
- Wet wiping, spraying, and/or vacuuming of tools and equipment in the work area will be performed at the completion of the work activity. 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.

5. WEST ELEVATION STOREFRONT WINDOW AND DOORS

The existing project scope includes the removal and replacement of all first floor windows identified as "Storefront" windows and the installation of a sheet metal cladding over the location of the existing joint and across the adjacent materials. The extent of the cladding varies depending on the location of the joint and the adjacent materials to be covered.

5.1 CHARACTERIZATION

Analytical results from storefront type windows and doors along the west elevation of Grayson and Field Houses indicate that exterior caulking located on exterior joints between the frames and adjacent building materials (i.e., concrete and slate) and exterior glazing sealants between the metal frame and glass contained PCBs ≥ 50 ppm.

Note: Samples of exterior caulking collected from storefront windows and doors along the east building elevation and from ribbon windows on all elevations of the building indicated that PCBs were non-detect (3 samples with reporting limits of < 0.95, < 0.98, and < 9.7 ppm) or present at concentrations < 50 ppm (five samples with concentrations ranging from 0.9 to 27 ppm and an average concentration of approximately 8.2 ppm) in the eight samples collected (see Table 2-3). Analytical results from eight glazing sealant samples collected from east elevation storefront windows and ribbon windows indicated that PCBs were either non-detect (five samples with reporting limits of < 8.7 ppm or lower) or < 50 ppm (three samples with concentrations of 4.5, 7.7, and 12 ppm) with an average concentration of 4.4 ppm.

Characterization samples were collected from building materials adjacent to the exterior caulking joints including concrete building foundation, stucco ceiling, and slate building façade. Sample locations were selected based on the planned project scope including the extent of sheet metal installation included in the renovations (given that this material will be used as an additional containment barrier) and the overall site model developed for the Orchard Hill Area including data collected during characterization and remediation of the Webster House. Sample locations and analytical results were as follows:

- Lower Concrete Foundation (144 l.f. of joint) – One sample of the concrete foundation was collected at a distance of one inch from the caulked joint along the vertical face of the concrete foundation. Analytical results reported PCBs at a concentration of 0.77 ppm;

- Vertical Slate (22 l.f. of joint) – One sample of slate façade was collected at a distance of one inch from the vertical caulked joint. Analytical results indicated that PCBs were present at a concentration of 0.23 ppm; and

- Stucco Soffit (144 l.f. of joint) – One sample of the stucco overhang material was collected at a distance of five inches from the upper horizontal caulked joint. Analytical results indicated that PCBs were present at a concentration of 0.15 ppm.

Results from the characterization sampling were consistent with those obtained during characterization of the Webster House.

5.2 REMOVAL AND DISPOSAL

The remedial approach for the caulking and adjacent materials is described below.

≥ 50 ppm PCB containing caulking and glazing sealants – A total of 310 l.f. of ≥ 50 ppm PCB-containing caulking is present on exterior frame to masonry joints and glazing sealants on the exterior side of the frame to glass joints. Exterior caulking and glazing sealants (interior and exterior) associated with the storefront windows and doors will be removed and disposed of as ACM and PCB bulk product waste in accordance with 40 CFR 761.62.

Metal window and door frames – Window and door frames and components are to be removed with the caulking for disposal as ≥ 50 ppm PCB waste and ACM (segregation of the window and door frames will not be conducted on west elevation storefront windows and doors).

5.3 BUILDING MATERIAL VERIFICATION SAMPLING

Concrete Foundation (144 l.f.) – Consistent with the overall approach outlined in Section 3, following caulking removal, verification samples will be collected from the concrete in former direct contact with the caulking to determine if PCBs > 1 ppm are present. Verification samples will be collected at a frequency of one sample per 50 l.f. of material for a total of three samples. Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm - concrete formerly in direct contact with the caulked joint and to a minimum distance of five inches down the face of the foundation will be managed in-place through encapsulation (liquid coating) and a second barrier, sheet metal cladding, will also be installed to this distance; or

- PCBs ≤ 1 ppm –no additional actions required; however, due to the overall project schedule which requires the installation of the replacement windows as quickly as possible, the liquid encapsulant may be applied to all materials formerly in direct contact with the caulked joints to the distance specified above without consideration for the results of the bulk samples.

Additional concrete verification samples will be collected at a distance of five inches down the face of the foundation to verify the required extent of encapsulation away from the joint. These samples will be collected and placed on hold with the analytical laboratory. Individual samples will be selected for analysis if results of the direct contact samples indicate PCBs > 1 ppm.

Following application of the liquid encapsulant, verification wipe samples will be collected from direct contact materials at the same frequency as specified for the bulk samples (three samples). Due to the project schedule as discussed above, these samples may be collected prior to receipt of the bulk sampling results and placed on hold with the analytical laboratory. Individual verification wipe samples will be selected for analysis if results of the bulk sampling indicate PCBs > 1 ppm. Additional information on the encapsulation methods is presented in Section 10.

Vertical Slate (22 l.f.) – Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the slate in former direct contact with the caulking to determine if PCBs > 1 ppm are present. Two verification samples will be collected from randomly selected locations along the joints (one per building). Results of the characterization sampling will be evaluated as follows:

- PCBs > 1 ppm - slate materials formerly in direct contact with and to a minimum distance of three inches from the vertical caulked joint will be managed in-place through encapsulation (liquid coating) and a second barrier, sheet metal cladding, will also be installed to a distance of three inches from the caulked joint; or

- PCBs ≤ 1 ppm –no additional actions required; however, due to the overall project schedule which requires the installation of the replacement windows as quickly as possible, the liquid encapsulant may be applied to all materials formerly in direct contact with the caulked joints to the distance specified above without consideration for the results of the bulk samples.

Additional slate verification samples will be collected at a distance of three inches from the joint to verify the required extent of encapsulation away from the joint (two samples, one per building). These samples will be collected and placed on hold with the analytical laboratory. Individual samples will be selected for analysis if results of the direct contact samples indicate PCBs > 1 ppm.

Following application of the liquid encapsulant, verification wipe samples will be collected from direct contact materials at the same frequency as specified for the bulk samples (two samples). Due to the project schedule as discussed above, these samples may be collected prior to receipt of the bulk sampling results and placed on hold with the analytical laboratory. Individual verification wipe samples will be selected for analysis if results of the bulk sampling indicate PCBs > 1 ppm. Additional information on the encapsulation methods is presented in Section 10.

Stucco Overhang Ceiling (144 l.f.) – The existing project scope includes the removal and disposal of the entire stucco overhang ceiling as ACM. Removal activities will be conducted under full containment including negative pressure controls. Ceiling materials will be segregated through saw cutting. Based on results of characterization sampling which indicated that PCBs were present at concentrations < 1 ppm at a distance of five inches from the caulked joint, stucco ceiling materials in direct contact with the caulking and to a minimum distance of five inches will be removed for disposal as ≥ 50 ppm PCB wastes.

Prior to removal, verification samples will be collected from stucco ceiling materials at a distance of five inches from the caulked joint at a frequency of one sample per 25 l.f. of caulked joint for a total of six samples. Results of verification samples will be evaluated as follows:

- PCBs > 1 ppm – additional materials will be removed for disposal as PCB remediation waste and additional verification samples collected at extent of removal; or

- PCBs ≤ 1 ppm – no additional PCB remedial activities will be conducted for these materials.

Based on the available construction information, the stucco ceiling is suspended approximately eight to ten inches below metal framing by wire. As such, there is no direct contact pathway to materials above the ceiling and no verification samples are proposed to be collected. Following removal of the stucco ceiling, visual inspection of the area above the ceiling will be conducted. If materials are found to be in direct contact with the stucco ceiling, verification samples will be collected at a frequency of one sample per 25 l.f. of caulked joint from those materials. Materials identified as containing PCBs > 1 ppm not scheduled to be removed as part of the renovations will be managed in place as described above. Materials scheduled for removal will be removed for disposal as described above.

6. EAST ELEVATION STOREFRONT WINDOWS

The existing project scope includes the removal and replacement of all first floor windows identified as "Storefront" windows and the installation of a sheet metal cladding over the location of the existing joint and across the adjacent materials. The extent of the cladding varies depending on the location of the joint and the adjacent materials to be covered.

6.1 CHARACTERIZATION

Analytical results from storefront type windows and doors along the east elevation of the Grayson and Field Houses indicated that caulking located in an isolated area on two interior vertical frame to CMU block joints (a total of 18 l.f.) within the Field House contained PCBs at concentrations of 75 ppm.

Analytical results from samples of exterior caulking (four samples), interior and exterior glazing sealants (three samples), and other interior caulking (two samples) indicated that PCBs were either non-detect (three samples with reporting limits of < 0.99 of lower) or present at concentrations < 50 ppm (exterior caulking and glazing sealant materials were visually similar to those observed along ribbon windows on all elevations; a total of nine samples of caulking and glazing sealants were collected from ribbon windows with analytical results reporting PCBs as either non-detect or < 50 ppm).

6.2 REMOVAL AND DISPOSAL

The remedial approach for the caulking and adjacent materials is described below.

<u>≥ 50 ppm PCB containing caulking</u> – A total of 18 l.f. of ≥ 50 ppm PCB-containing caulking is present at two interior frame to CMU block joints in the Field House. Caulking along these joints will be removed and disposed of as ACM and PCB bulk product waste in accordance with 40 CFR 761.62. All other caulking and glazing sealants will be removed for disposal as ACM and < 50 ppm PCB waste.

<u>Metal window and door frames</u> – Window frames and components in direct contact with ≥ 50 ppm PCB containing caulking along the two interior vertical caulked joints at the Field House are to be removed with the caulking for disposal as ≥ 50 ppm PCB waste. Based on the work conducted in 2011 at the Webster House, the remaining portions of the window frames will either be managed with the ≥ 50 ppm PCB waste or the contractor may decide to segregate this material for disposal as < 50 ppm PCB waste.

6.3 BUILDING MATERIAL VERIFICATION SAMPLING

Consistent with the overall approach outlined in Section 3, following caulking removal, verification samples will be collected from the CMU block to determine if PCBs > 1 ppm are present in materials that were in direct contact with the caulking. One verification sample will be collected over the 18 l.f. Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm – CMU block formerly in direct contact with the caulked joint and to the first 90-degree angle (approximately three inches) will be managed in-place through encapsulation (liquid coating) and a second barrier, sheet metal cladding; or

- PCBs ≤ 1 ppm –no additional actions required; however, due to the overall project schedule which requires the installation of the replacement windows as quickly as possible, the liquid encapsulant may be applied to

materials formerly in direct contact with the caulked joints to the distance specified above without consideration for the results of the bulk samples.

An additional concrete verification sample will be collected immediately beyond the first 90-degree angle (approximately 3 inches from the joint) to verify the required extent of encapsulation away from the joint. This sample will be collected and placed on hold with the analytical laboratory. The sample will be selected for analysis if results of the direct contact sample indicate PCBs > 1 ppm.

Following application of the liquid encapsulant, verification wipe samples will be collected from direct contact materials at the same frequency as specified for the bulk samples. Due to the project schedule as discussed above, this sample may be collected prior to receipt of the bulk sampling result and placed on hold with the analytical laboratory. The verification wipe sample will be selected for analysis if results of the bulk sampling indicate PCBs > 1 ppm. Additional information on the encapsulation methods is presented in Section 10.

7. ELEVATOR HALL WINDOWS (TYPE D)

Elevator hall windows, identified as Type D windows on the project specification drawings, are present on each side of the elevator halls in the Grayson and Field Houses from the second through seventh floors for a total of 48 windows (four banks of six pairs of windows in two buildings). The existing project scope includes the removal and replacement of the elevator hall windows and the installation of sheet metal cladding along interior and exterior joints.

7.1 CHARACTERIZATION

Analytical results indicated that interior caulking along the upper horizontal joints and metal to metal vertical frame joints contained PCBs at concentrations ≥ 50 ppm with reported concentrations of 400 ppm (upper horizontal joints) and 120,000 and 140,000 ppm (vertical metal to metal joints).

Elevator Lobby Windows

Interior caulking along the vertical joints (metal to masonry) contained PCBs at concentrations of 10, 13, and 39 ppm (this material was visually distinct from that observed along the upper horizontal caulked joints described above). Results from exterior caulking samples indicated that PCBs were < 50 ppm (exterior caulking was physically similar to exterior caulking identified at other windows; results of characterization sampling of these locations indicated that PCBs were non-detect or present at concentrations < 50 ppm as well). Five samples of glazing sealants were collected with total PCBs reported as non-detect (3 samples with reporting limits of < 9.3, < 9.4, and < 38 ppm) and at concentrations of 2.6 and 17 ppm.

Characterization samples of adjacent building materials were not collected due to the destructive nature of building material sampling and conversations with UMass personnel, which indicated that the approach utilized during Webster House remediation (i.e., the encapsulation of interior CMU block materials from the window to the first 90-degree angle) would be acceptable for this project (to be confirmed by verification sampling as described below).

7.2 REMOVAL AND DISPOSAL

The remedial approach for the caulking and adjacent building materials is described below.

Interior Caulking – A total of 432 l.f. of ≥ 50 ppm PCB-containing caulking is present on interior joints (upper horizontal window frame [288 l.f.] to masonry joints and vertical metal to metal frame joints [144 l.f.]). Caulking associated with these joints will be removed and disposed of as ACM and PCB bulk product waste in accordance with 40 CFR 761.62. All other caulking and glazing sealants will be removed for disposal as < 50 ppm waste and ACM.

Window Frames and Components – Window frames and components in direct contact with the interior upper horizontal frame to masonry and the vertical frame to frame caulked joints will be removed with the caulking for disposal as ≥ 50 ppm PCB waste. Based on the work conducted in 2011 at the Webster House, the remaining portions of the window frames will either be managed with the ≥ 50 ppm PCB waste or the contractor may decide to segregate this material for disposal as < 50 ppm PCB waste.

7.3 BUILDING MATERIAL VERIFICATION SAMPLING

Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the interior CMU block along the upper caulked joints to determine if PCB impacts > 1 ppm are present in materials that were in direct contact with the caulking. One verification sample will be collected from a randomly selected location on each floor (for a total of six samples and an approximate sample frequency of one sample per 50 l.f. of caulked joint based on 288 l.f. of upper horizontal caulked joints) as follows:

- The building and pair of windows for each floor will be randomly selected (there are two pairs of windows in each area); and

- The location of the verification sample on the joint will be selected by randomly selecting a number between 0 and 12 (representing the total length of the upper horizontal joint along both windows in the selected pair) with the zero point assigned to the left side and proceeding to the right.

Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm – CMU block materials formerly in direct contact with the caulked joint and above the window to the concrete ceiling at a distance of approximately 15 inches (i.e., the first 90-degree angle) will be managed in-place through the application of a liquid coating; or

- PCBs ≤ 1 ppm – no additional actions required; however, due to the overall project schedule which requires the installation of the replacement windows as quickly as possible, the liquid encapsulant may be applied to materials formerly in direct contact with the caulked joints to the distance specified above without consideration for the results of the bulk samples.

Additional concrete verification samples will be collected immediately beyond the first 90-degree angle (i.e., on the concrete ceiling approximately 15-16 inches from the joint) to verify the required extent of encapsulation away from the joint (six samples). These samples will be collected and placed on hold with the analytical laboratory. Individual samples will be selected for analysis if results of the direct contact samples indicate PCBs > 1 ppm.

Following application of the liquid encapsulant, verification wipe samples will be collected from direct contact materials and from adjacent materials at the same frequency as specified for the bulk samples (i.e., one per floor for a total of two wipe samples per floor). Due to the project schedule as discussed above, wipe samples collected from materials formerly in direct contact may be collected prior to receipt of the bulk sampling results and placed on hold with the analytical laboratory. Individual verification wipe samples will be selected for analysis if results of the bulk sampling indicate PCBs > 1 ppm. Additional information on the encapsulation methods is presented in Section 10.

8. NARROW STAIRWELL WINDOWS (TYPES G, H, AND I)

Narrow stairwell windows, identified as Type G, H, and I windows on the project drawings, are located on the east and west elevations of the northern and southern stairwells. The windows on each floor are separated by a narrow strip of concrete with wooden block installed at the bottom of each window above the concrete. The existing project scope includes the removal and replacement of the narrow stairwell windows and the installation of sheet metal cladding along exterior joints.

8.1 CHARACTERIZATION

Analytical results indicated that approximately 114 l.f. of exterior caulking along the frame to masonry joints of the narrow stairwell windows on the west elevation of the northern stairwell contained PCBs at concentrations ≥ 50 ppm with reported concentrations of 52 ppm in two samples. The other three samples from the exterior window caulking, as well as the interior caulking and glazing sealants, were all < 50 ppm.

One characterization sample was collected from brick materials at a distance of one inch from the caulked joint (on the face of brick perpendicular to the face of the building). Analytical results indicated that PCBs were non-detect (< 0.10 ppm).

8.2 REMOVAL AND DISPOSAL

The remedial approach for the caulking and adjacent building materials is described below.

Exterior Caulking – A total of 114 l.f. of ≥ 50 ppm PCB-containing caulking is present on the exterior joints of the narrow stairwell windows on the west elevation of the northern stairwell. Caulking associated with these joints will be removed and disposed of as ACM and PCB bulk product waste in accordance with 40 CFR 761.62. All other caulking and glazing sealants will be removed for disposal as < 50 ppm waste and ACM.

Window Frames and Components – Window frames and components in direct contact with the exterior caulked joints, including the wooden blocks at the bottom of each window, will be removed with the caulking for disposal as ≥ 50 ppm PCB waste. Based on the work conducted in 2011 at the Webster House, the remaining portions of the window frames will either be managed with the ≥ 50 ppm PCB waste or the contractor may decide to segregate this material for disposal as < 50 ppm PCB waste.

8.3 BUILDING MATERIAL VERIFICATION SAMPLING

Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the brick materials along the exterior vertical caulked joints to determine if PCBs > 1 ppm are present in materials that were in direct contact with the caulking. Samples of concrete along the upper and lower horizontal joints are not proposed to be collected due to the planned removal of the wooden blocks in direct contact with the caulking along the lower vertical joints and an assumed higher potential for migration of PCBs away from vertical joints than the upper horizontal joints. Verification samples will be collected at a frequency of one sample per 50 l.f. of caulked joint for a total of 3 samples.

Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm - building materials formerly in direct contact with the caulked joint and along the face of material perpendicular to the building (i.e., to the first 90-degree angle approximately two inches away from

the joint) will be managed in-place through encapsulation (liquid coatings) and a second barrier, sheet metal cladding; or

- PCBs ≤ 1 ppm –no additional actions required; however, due to the overall project schedule which requires the installation of the replacement windows as quickly as possible, the liquid encapsulant may be applied to materials formerly in direct contact with the caulked joints to the distance specified above without consideration for the results of the bulk samples.

Additional verification samples will be collected immediately beyond the first 90-degree angle (i.e., on the face of the brick parallel to the building face) to verify the required extent of encapsulation away from the joint. These samples will be collected and placed on hold with the analytical laboratory. Individual samples will be selected for analysis if results of the direct contact samples indicate PCBs > 1 ppm.

Following application of the liquid encapsulant, verification wipe samples will be collected from direct contact materials at the same frequency as specified for the bulk samples. Due to the project schedule as discussed above, these samples may be collected prior to receipt of the bulk sampling results and placed on hold with the analytical laboratory. Individual verification wipe samples will be selected for analysis if results of the bulk sampling indicate PCBs > 1 ppm. Additional information on the encapsulation methods is presented in Section 10.

9. STAIRWELL WINDOWS (TYPE J)

Stairwell windows, identified as Type J windows on the project drawings, are located on the stairwell landings on the northern stairwell, the southern stairwell, and the central stairwell separating the Grayson and Field Houses (stairwell windows are located on both the east and west elevations of the central stairwell). The existing project scope includes the removal and replacement of the stairwell windows.

9.1 CHARACTERIZATION

During the site inspection, caulking was observed on interior and exterior frame to masonry joints and glazing sealant was observed on the frame to glass joints. Analytical results indicated that PCBs were present at concentrations ≥ 50 ppm in caulking located on the interior frame to concrete joints (horizontal joints) and frame to brick joints (vertical joints) of the northern stairwell windows, the southern stairwell windows, and east side windows of the central stairwell. Total PCB concentrations were reported as 63 and 170 ppm.

PCBs in samples of exterior caulking from the stairwell windows were reported as non-detect or < 50 ppm. Results of glazing sealant samples indicated that PCBs were either non-detect (1 sample) or present at concentrations < 50 ppm (two samples with concentrations of 4.2 and 31 ppm).

Note: Stairwell windows on the west side of the central stairwell were constructed differently from all other stairwell windows (identified as Type L windows on the specification drawings). Interior caulking along the stairwell windows on the west side of the central stairwell was determined to be consistent with interior frame to masonry caulking identified on the dormitory windows, west side storefront windows, and the narrow stairwell windows based on physical appearance/description and total PCB concentrations. Samples of caulking were collected at these locations with reported concentrations of < 50 ppm in all of the samples.

Characterization samples were collected from concrete materials below the lower horizontal caulked joint. Sample locations were selected based on the planned project scope including the extent of sheet metal installation included in the renovations (given that this material may be used as an additional containment barrier) and the overall site model developed for the Orchard Hill Area including data collected during characterization and remediation of the Webster House. Two samples of the concrete were collected at a distance of one inch from the caulked joint on the upper horizontal face of the interior window sill. Analytical results indicated that PCBs were non-detect (< 0.96 ppm in the sample collected from the northern stairwell) or present at a concentration < 1 ppm (total PCBs reported as 0.27 ppm in the sample collected from the central stairwell).

9.2 REMOVAL AND DISPOSAL

Interior Caulking – A total of 378 l.f. of ≥ 50 ppm PCB-containing caulking is present on the interior joints of the stairwell windows on the northern and southern stairwells and the east side of the central stairwell. Caulking associated with these joints will be removed and disposed of as ACM and PCB bulk product waste in accordance with 40 CFR 761.62. All other caulking and glazing sealants will be removed for disposal as < 50 ppm waste and ACM.

Window Frames and Components – Window frames and components in direct contact with the interior caulked joints are to be removed with the caulking for disposal as ≥ 50 ppm PCB waste. Based on the work conducted in 2011 at the Webster House, the remaining portions of the window frames will either be managed with the ≥ 50 ppm PCB waste or the contractor may decide to segregate this material for disposal as < 50 ppm PCB waste.

9.3 BUILDING MATERIAL VERIFICATION SAMPLING

Consistent with the overall approach outlined above, following caulking removal, verification samples will be collected from the building materials along the interior caulked joints to determine if PCB impacts > 1 ppm are present in materials that were in direct contact with the caulking. Verification samples will be collected from concrete sill materials at a frequency of one sample per 50 l.f. of caulked joint (samples will not be collected from concrete header materials) and brick materials at a frequency of one sample per 50 l.f. of caulked joint for a total of six samples.

Results of the verification sampling will be evaluated as follows:

- PCBs > 1 ppm – materials formerly in direct contact with the caulked joint and to a distance of two inches from the caulked joint (this corresponds to materials along the window sill to the first 90-degree angle) will be managed in-place through encapsulation (liquid coatings) and the installation of the replacement windows which are two inches wider than the existing windows (the replacement window frame will act as the second barrier); or

- PCBs ≤ 1 ppm –no additional actions required; however, due to the overall project schedule which requires the installation of the replacement windows as quickly as possible, the liquid encapsulant may be applied to all materials formerly in direct contact with the caulked joints to the distance specified above without consideration for the results of the bulk samples.

Additional verification samples will be collected from concrete sill materials immediately after the 90-degree angle (on the vertical face of the concrete sill approximately 2-3 inches from the caulked joint) and from brick wall materials at a distance of 2-3 inches from the caulked joints to verify the required extent of encapsulation away from the joint. These samples will be collected and placed on hold with the analytical laboratory. Individual samples will be selected for analysis if results of the direct contact samples indicate PCBs > 1 ppm.

Following application of the liquid encapsulant, verification wipe samples will be collected from direct contact materials at the same frequency as specified for the bulk samples. Due to the project schedule as discussed above, these samples may be collected prior to receipt of the bulk sampling results and placed on hold with the analytical laboratory. Individual verification wipe samples will be selected for analysis if results of the bulk sampling indicate PCBs > 1 ppm. Additional information on the encapsulation methods is presented in Section 10.

10. ENCAPSULATON AND IN-PLACE MANAGEMENT

Building materials identified through verification sampling as containing > 1 ppm PCBs (see discussions above on building material verification sampling) will be managed in place through the installation of a barrier system designed to prevent direct contact exposure and potential migration away from these areas. The barrier system will consist of two coats of a liquid coating (liquid epoxy coating such as Sikagard 62, acrylic coating such as Sikagard 550, or equivalent product) and in select locations the installation of sheet metal cladding or the replacement windows themselves as included in the building renovation designs. The lateral extent of the encapsulation away from the caulked joints will be based on the location of the characterization samples collected to date, which indicated that PCBs were non-detect or < 1 ppm in all sampled locations, the extent of sheet metal cladding to be installed in accordance with the existing renovation scope of work, the extent of encapsulation required as part of the Webster House remediation conducted in 2011, and the proposed verification sampling as outlined on Table 3-2.

A summary of the initial proposed extent of the barrier system for each of the areas indentified as containing caulking at concentrations ≥ 50 ppm is as follows:

- West Elevation Storefront Windows:
    - Concrete Foundation – two coats of liquid coating (liquid epoxy coating or equivalent product) will be applied to materials formerly in direct contact with the caulked joints and to a distance of five inches down the face of the concrete foundation. Sheet metal cladding will be installed over the liquid coating; and
    - Vertical Slate Joints – two coats of liquid coating will be applied to materials formerly in direct contact with the caulked joints and to a distance of three inches from the former caulked joint on slate façade adjacent to the windows. Sheet metal cladding will be installed over the liquid coating;
- East Elevation Storefront Windows: two coats of liquid coating will be applied to CMU block materials along the two vertical caulked joints to the first 90-degree angle (i.e., materials parallel to the face of the window). Sheet metal cladding will be installed over the liquid coating;
- Elevator Hall Windows: two coats of liquid epoxy coating will be applied to materials formerly in direct contact with the caulked joints. Two coats of a liquid acrylic coating will be applied to CMU block materials above the windows to the first 90-degree angle (i.e., to the ceiling corresponding to a distance of approximately 15 inches);
- Narrow Stairwell Windows: two coats of liquid coating will be applied to brick and concrete materials formerly in direct contact with the caulked joints to a distance of approximately two inches (corresponding to the first 90-degree angle along the vertical joints). Sheet metal cladding will be installed over the liquid coating; and
- Stairwell Windows: two coats of liquid coating will be applied to brick and concrete materials to a distance of two inches from the caulked joints (for concrete sill materials the liquid coatings will be applied up to the first 90-degree angle). The replacement window will be installed over the liquid coating.

The extent of the liquid coating and sheet metal cladding may be modified based on the overall project specifications. If such modifications do occur, the locations of the verification samples will be adjusted accordingly to be collected at the limits of the barrier materials.

Inspection and verification wipe testing will be conducted following application of the liquid coating. Visual inspection will be conducted to confirm that the application has been conducted in accordance with the manufacturer's specifications to the required extent on the building materials containing or assumed to contain PCBs > 1 ppm. Verification wipe testing will be conducted at frequencies consistent with the bulk sampling frequencies included in Sections 5 through 9 and from areas determined to contain PCBs at concentrations > 1 ppm through the verification bulk sampling (refer to Table 3-2).

Verification wipe samples will be collected in accordance with 40 CFR 761.123. All samples will be transported to the laboratory under standard Chain of Custody procedures, extracted using USEPA Method 3540C (Soxhlet extraction), and analyzed for PCBs using USEPA Method 8082.

Results of the verification wipe testing will be evaluated as follows:

- For areas in which sheet metal cladding or replacement window frames are to be installed over the liquid coating, analytical results will be compared to an encapsulation standard of ≤ 1 µg/100cm^2 for the establishment of baseline monitoring in support of long term monitoring. If analytical results from the verification wipe sampling indicate that PCBs are present at concentrations > 1 µg/100cm^2 on the liquid encapsulant, additional verification wipe testing will be conducted on the additional barrier following installation; and

- For areas in which no sheet metal cladding is to be installed, analytical results will be evaluated as follows:

    - Total PCBs > 1 µg/100cm^2 – additional layer of liquid coating to be applied, additional verification wipe sample collected following application from an off-set location; and

    - Total PCBs ≤ 1 µg/100cm^2 – no additional actions required, area incorporated into long term monitoring program.

Due to the overall project schedule, which requires the installation of the replacement windows as quickly as possible, the liquid encapsulant may be applied to materials formerly in direct contact with the caulking and to the distances specified above prior to receipt of the verification sample results (i.e., without regard to verification sample results). Additionally, verification wipe samples may be required to be collected from direct contact materials prior to receipt of verification bulk sample results. If this sequencing is required, verification wipe samples will be collected and placed on hold with the analytical laboratory. Individual samples will be analyzed if the direct contact bulk samples detect PCBs > 1 ppm.

11. WASTE STORAGE AND DISPOSAL

Caulking identified as containing ≥ 50 ppm PCBs as well as window and door frames and components coated or in direct contact with the caulking will be managed as a single waste stream and designated as ≥ 50 ppm PCB waste and ACM. Based on the work conducted in 2011 at the Webster House, the remaining portions of the window frames (including glass and other sealants with PCBs < 50 ppm) will either be managed with the ≥ 50 ppm PCB waste and ACM or the contractor may decide to segregate this material for disposal as < 50 ppm PCB waste and ACM.

After removing loose debris, any disposable polyethylene sheeting, PPE, and non-liquid cleaning materials will be managed and disposed of as < 50 ppm PCB waste and ACM in accordance with 40 CFR 761.61(a)(5)(v).

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 EQ Wayne Disposal located in Belleville, Michigan, or equivalent waste disposal facility. PCB waste < 50 ppm will be transported to Waste Management's Turnkey Recycling and Environmental Enterprises (TREE) facility in Rochester, New Hampshire, or equivalent facility permitted to accept this type of waste.
- 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.

12. CONCEPTUAL MONITORING AND MAINTENANCE PLAN

As described in this Plan, UMass may encounter conditions that 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 in joints and on façades) to eliminate the direct contact exposure pathway and migration pathways of PCBs remaining on the building. Upon completion of the remedial actions, the impacted material would not be accessible for direct exposure or migration to surrounding building materials.

If an encapsulated barrier is implemented to contain residual PCBs, a monitoring and maintenance plan (MMP) will be developed and implemented. The main components of the MMP will be as follows:

- Visual inspections – visual inspections of the encapsulated surfaces will be conducted. All inspections will be recorded and included in a report to the EPA. The inspections will consist of an assessment of the following:
    - Signs of the underlying coating, or excessive pitting, peeling, or breakages in the coating, if visible;
    - Signs of weathering or disturbance of the replacement caulking (where applied); and
    - A general inspection of the sheet metal cladding (where applied).
- Monitoring – Materials included in the long term monitoring that are not covered with sheet metal cladding will be monitored through the collection of verification wipe samples. No wipe samples of the sheet metal cladding are proposed to be collected over time; however, depending on the results of the baseline wipe testing, modifications to this approach may be needed.
- Corrective Actions – if results of the inspections indicate that damage has occurred to a component of the barrier system, the needed repairs will be conducted.
- Maintenance Guidelines and Procedures – to prevent potential exposure to maintenance and facility personnel that may perform activities in encapsulated areas, guidelines and procedures will be developed and implemented for any work being conducted in the respective encapsulated areas. These guidelines and procedures will detail communication procedures, worker protection requirements, and worker training requirements to be conducted for maintenance or other activities in these areas,
- Reporting – a report documenting the findings of the visual inspections will be prepared and submitted to EPA.

The details of the MMP will be developed following completion of the remediation activities. 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.

13. PROJECT SCHEDULE AND RESTORATION

The replacement of the windows and doors of the Grayson and Field Houses is scheduled to be conducted in two phases. During 2012, first floor windows and doors on the west elevations and upper floor windows on the east elevations are schedule to be replaced. During 2013, first floor windows and doors on the east elevations and upper floor windows on the west elevations (all remaining windows) are scheduled to be replaced. During both years, the projects are anticipated to begin immediately following graduation (spring) and will be completed prior to students returning in the fall. This schedule will allow for the renovation activities to be conducted when the buildings are vacant.

Following completion of the removal activities and verification that the cleanup levels have been met or the risk-based encapsulation approach applied, the building surfaces will be restored in accordance with the window replacement project design specifications. The site controls will be dismantled and all wastes will be transported off-site for proper disposal.

14. RECORDKEEPING AND DOCUMENTATION

Following completion of the work activities, records and documents per 40 CFR Part 761 will be generated and maintained at one location. 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. This report will also include any necessary deed notices, if required, as part of the risk-based approach.

Table 2-1
Summary of Sealant Characterization Sampling Results
(by Window Type)
Grayson and Field Houses
UMass Amherst

Window Type		Material	Sample ID	Sample Date	Total PCBs (mg/kg)	Sealant Description	Location Description
First Floor Storefront Windows and Doors	West Elevation Windows and Doors (Type N-02)	Exterior Frame Caulking	GH-CBK-038	8/10/2011	**78**	1/2" grey, soft, sticky	west elevation, south of doorway, metal to concrete lower vertical joint
			GH-CBK-049	8/23/2011	**66**	1/2" grey, soft slightly flexible(bends) fibrous	west face,metal to slate seam
			GH-CBK-099	10/21/2011	**200**	1/2", light grey, soft, flexible	west elevation
		Interior Frame Caulking	GH-CBK-118	11/7/2011	30	1/2" off-white, light yellow hard, brittle	west elevation, frame to slate vertical joints (3 joints)
		Exterior Glazing	GH-CBK-041	8/10/2011	**170**	1/8" light grey, soft, flexible, flakey	west elevation, south of doorway, north of ribbon windows
			GH-CBK-047	8/23/2011	**150**	1/8" grey hard brittle	west elevation storefront windows
			GH-CBK-100	10/21/2011	**60**	1/8" grey, soft, flakey	west elevation
		Interior Glazing	GH-CBK-064	8/23/2011	<10	1/8" grey(off-white),soft, tacky, flexible	nterior glazing S.F. window west side elevation
	East Elevation Windows and Doors (Type N-02)	Exterior Frame Caulking	GH-CBK-043	8/10/2011	0.9 J	1/4" grey, slightly flexible (breaks when bent)	1st floor, NE elevation, slate to metal joint
			GH-CBK-045	8/10/2011	<0.95	1/4" light grey, soft, flexible, sticky	1st floor, east elevation, metal to concrete joint
			GH-CBK-102	10/21/2011	27	off-white, light grey, soft, breaks(not flexible)	east side, SE section, horizontal frame to concrete joint
			GH-CBK-105	10/21/2011	1.1	1/4", soft, off-white,grey, not flexible,	east elevation
		Interior Frame Caulking	GH-CBK-001	8/10/2011	4.1	1/2" grey, flexible, soft, void space behind.	1st floor, NE Elevation vertical metal/CMU block joint
			GH-CBK-016	8/10/2011	<1.9	1/8" light grey, soft, flexible, sticky	1st floor, vertical metal to CMU joint
			GH-CBK-098	10/21/2011	**75**	1/2", grey, soft	east elevation, frame to CMU joint (qty 2 5-ft joints observed in common area)
		Exterior Glazing	GH-CBK-104	10/21/2011	< 0.99	1/8", dark grey/black, soft, flexible	east elevation, SE corner
			GH-CBK-106	10/21/2011	< 0.93	off-white, brittle, medium soft	east elevation
		Interior Glazing	GH-CBK-015	8/10/2011	4.5	1/8" black, flexible	1st floor, north doorway
	Ribbon Windows (Type N-01)	Exterior Frame Caulking	GH-CBK-039	8/10/2011	7.7	1/2" grey, soft, sticky	south elevation, west of western door, metal to slate joint on ribbon windows.
			GH-CBK-050	8/23/2011	4.1	1/2" grey, soft slightly flexible(bends) fibrous	west face,metal to slate seam
			GH-CBK-051	8/23/2011	<0.98	1/2" grey, soft slightly flexible(bends) fibrous	east face
			GH-CBK-101	10/21/2011	< 9.7	light grey, soft, not flexible(breaks)	Field, East Elevation A
		Exterior Glazing	GH-CBK-046	8/10/2011	<0.99	1-1/2" grey, hard, brittle, glazing	north elevation, ribbon windows
			GH-CBK-048	8/23/2011	12	1-1/2" grey, hard, brittle, glazing	south elevation, just west of southern stairs, ribbon windows
			GH-CBK-107	10/21/2011	< 0.97	1/2- 3/4" off-white, medium soft, brittle	Field, East Elevation B
		Interior Glazing	GH-CBK-063	8/23/2011	7.7	1/8" grey, soft, flakey	nterior glazing, ribbon windows, east side elevation
			GH-CBK-097	10/21/2011	< 8.7	1/8" light grey, hard, brittle	Field, South elevation, east of entryway

Table 2-1
Summary of Sealant Characterization Sampling Results
(by Window Type)
Grayson and Field Houses
UMass Amherst

Window Type	Material	Sample ID	Sample Date	Total PCBs (mg/kg)	Sealant Description	Location Description
Elevator Hall Windows (Type D)	Exterior Frame Caulking	GH-CBK-037	8/10/2011	<180	1 1/4" light grey, soft, flexible, sticky (same as -034)	2nd floor south side
		GH-CBK-044	8/10/2011	49	1/2" light grey, soft, flexible, sticky	2nd floor north side
		GH-CBK-108	10/21/2011	35	3/4", soft, slightly flexible, off white, covered by thin film of silicone removed prior to sample collection	above entry(F-5) on RH side, south elevation
		GH-CBK-109	10/21/2011	36	2 layers- outer is grey, soft, sticky, inner is off-white, soft, slightly flexible	Field North Elevation, west of entryway
	Interior Frame Caulking	GH-CBK-006	8/10/2011	10	1/4" off-white/yellow, soft, flaky	4th floor, north side window
		GH-CBK-009	8/10/2011	13 J	1/4" off-white/yellow, soft, flaky	7th floor, south side window
		GH-CBK-062	8/23/2011	**400**	1/4-1/2" off-white, brittle, hard	south elevation hall window, 3rd floor, south interior caulking
		GH-CBK-092	10/21/2011	39	1/2" off-white soft, flakey	7th floor, interior joint.
	Interior Metal/Metal Caulking	GH-CBK-005	8/10/2011	**120,000**	3/4" grey, soft, flexible	4th floor, north side window, vertical joint
		GH-CBK-007	8/10/2011	**140,000**	3/4" grey, soft, flexible	7th floor, south side window, vertical joint
	Exterior Glazing	GH-CBK-010	8/10/2011	2.6	1/4" light grey, soft, flexible	7th floor, south side window, interior and exterior glazing same material
		GH-CBK-058	8/23/2011	<9.4	1/8-1/4" black, soft, flexible, sticks	north elevator hall window, 2nd floor, lower window
		GH-CBK-061	8/23/2011	<38	1/4" gray, flexible, soft	south elevation hall window, 3rd floor, exterior glazing
	Interior Glazing	GH-CBK-095	10/21/2011	< 9.3	1/8" black soft, not flexible, inner is grey	3rd floor, south side
		GH-CBK-096	10/21/2011	17 J	1/8" black, soft, not flexible, inner is grey	4th floor, north side
Elevator Hall Door/Windows (Interior Units)	Glazing	GH-CBK-117	11/7/2011	< 0.88	1/8" black, soft, flexible, sticky	5th floor, Field House
Dormitory Windows (Type A)	Exterior Frame to Brick Caulking (768 windows)	GH-CBK-017	8/10/2011	<34	1/2 - 1" grey, soft, flexible, cracked	Room 228
		GH-CBK-021	8/10/2011	3.6	1/2 - 1" grey, soft, flexible, cracked	Room 607
		GH-CBK-024	8/10/2011	22	1/2 - 1" grey, soft, flexible, cracked	Room 714
		GH-CBK-026	8/10/2011	25	1/2 - 1" grey, soft, flexible, cracked	Room 617
		GH-CBK-031	8/10/2011	8.3	1/2 - 1" grey, soft, flexible, cracked	Room 333
		GH-CBK-032	8/10/2011	<190	1/2 - 1" grey, soft, flexible, cracked	Room 433
		GH-CBK-088	10/21/2011	<180	grey, soft, flexible,	Room 728
		GH-CBK-089	10/21/2011	< 8.8	3/4", off white,light grey, soft, flexible, weathered	Room 733
		GH-CBK-091	10/21/2011	8.2	grey, soft, flexible,	5th floor
	Interior Frame to Brick Caulking (768 windows)	GH-CBK-018	8/10/2011	12 J	1/2" off-white, light yellow hard, brittle	Room 228
		GH-CBK-023	8/10/2011	4.5	1/2" off-white, light yellow hard, brittle	Room 607
		GH-CBK-025	8/10/2011	11	1/2" off-white, light yellow hard, brittle	Room 714
		GH-CBK-027	8/10/2011	17	1/2" off-white, light yellow hard, brittle	Room 617
		GH-CBK-030	8/10/2011	16	1/2" off-white, light yellow hard, brittle	Room 333
		GH-CBK-033	8/10/2011	9 J	1/2" off-white, light yellow hard, brittle	Room 433
		GH-CBK-087	10/21/2011	2.6	off white/yellow, hard, brittle	Room 728
		GH-CBK-090	10/21/2011	4.4	1/2" - hard, off-white/grey, cracked	Room 733
	Interior Glazing	GH-CBK-022	8/10/2011	4.2	1/8" light grey, soft, flakey	Room 607
		GH-CBK-093	10/21/2011	< 8.7	1/8" light grey, soft, flakey	Room 728
		GH-CBK-094	10/21/2011	3.5	1/8" light grey, soft, flakey	Room 733
	Exterior Glazing	GH-CBK-029	8/10/2011	<190	1/8" grey, soft, flexible	Room 612

Table 2-1
Summary of Sealant Characterization Sampling Results
(by Window Type)
Grayson and Field Houses
UMass Amherst

Window Type	Material	Sample ID	Sample Date	Total PCBs (mg/kg)	Sealant Description	Location Description
Narrow Stairwell Windows (Type G, H, and I)	Exterior Frame to Masonry Caulking	GH-CBK-042	8/10/2011	**52**	1/2" grey, sticky, flexible	west side of North stairwell, narrow stairwell window
		GH-CBK-110	10/21/2011	**52**	outer layer -1", grey, soft,flexible, middle layer(2)inner layer- 1/2-3/4" soft, non-flexible,(bends then breaks) 3 distinctly separate layers of caulking (off-white/yellow/off-white)	west side, north stairwell,
		GH-CBK-111	10/21/2011	36 J	outer layer -1", grey, soft,flexible, middle layer(2)inner layer- 1/2-3/4" soft, non-flexible,(bends then breaks) 3 distinctly separate layers of caulking (off-white/yellow/off-white)	east elevation, north stairwell,
		GH-CBK-112	10/21/2011	< 0.95	outer layer -1", grey, soft,flexible, middle layer(2)inner layer- 1/2-3/4" soft, non-flexible,(bends then breaks) 3 distinctly separate layers of caulking (off-white/yellow/off-white)	east elevation, south stairwell
		GH-CBK-113	10/21/2011	13	outer layer -1", grey, soft,flexible, middle layer(2)inner layer- 1/2-3/4" soft, non-flexible,(bends then breaks) 3 distinctly separate layers of caulking (off-white/yellow/off-white)	west elevation, south stairwell
	Interior Frame to Masonry Caulking	GH-CBK-004	8/10/2011	14	1/4" light yellow, hard, brittle	North stairwell, 2nd floor, east side
	Interior Caulking	GH-CBK-065	8/23/2011	2.2	1/2" tan, hard, brittle	harrrow stairwell, east side, 4th floor
	Interior Glazing	GH-CBK-014	8/10/2011	<0.97	1/4" light grey, soft, flexible	north stairwell, 3rd floor, west side
Stairwell Windows (Type J and L)	Interior Frame to Masonry Caulking	GH-CBK-019	8/10/2011	**63**	1/4" off-white, hard, flakey/crumbly	north stairwell, 4th floor, frame to concrete joints
		GH-CBK-013	8/10/2011	**170**	1/4" off-white, hard, flakey/crumbly	Central Stairwell, east side, 2nd floor, frame to concrete joints
		GH-CBK-011	8/10/2011	24	1/4" light yellow, hard, brittle	Central Stairwell, west side, 4th floor, frame to brick joints
	Exterior Frame to Masonry Caulking\	GH-CBK-034	8/10/2011	<200	1 - 11/2" grey, very flexible, sticky	west side central stairwell, 2nd floor (outer)
		GH-CBK-036	8/10/2011	<180	1/2 - 3/4" grey, soft, sticky (softer, stickier than -034)	west side central stairwell, 2nd floor (inner)
		GH-CBK-114	10/21/2011	< 0.91	1/4" light grey, medium soft, not flexible	east side central stairwell
		GH-CBK-115	10/21/2011	< 18	outer layer -1", grey, soft,flexible, middle layer(2)inner layer- 1/2-3/4" soft, non-flexible,(bends then breaks) 3 distinctly separate layers of caulking (off-white/yellow/off-white)	Field, south elevation, above entryway F6
		GH-CBK-116	10/21/2011	< 19	outer layer -1", grey, soft,flexible, middle layer(2)inner layer- 1/2-3/4" soft, non-flexible,(bends then breaks) 3 distinctly separate layers of caulking (off-white/yellow/off-white)	Grayson, north elevation, above entryway F2
	Exterior Glazing	GH-CBK-035	8/10/2011	31	1/8" grey, flexible, sticky	west side central stairwell
	Interior Glazing	GH-CBK-003	8/10/2011	4.2 J	1/4" light grey, soft, flexible	north stairwell, 2nd floor
		GH-CBK-012	8/10/2011	<2.0	1/8" dark grey, soft, flexible	Central Stairwell, west side, 4th floor

Table 2-1
Summary of Sealant Characterization Sampling Results
(by Window Type)
Grayson and Field Houses
UMass Amherst

Window Type	Material	Sample ID	Sample Date	Total PCBs (mg/kg)	Sealant Description	Location Description
Stairwell Doors (Type K, K1, and K2)	Interior Frame to CMU Joint	GH-CBK-002	8/10/2011	2.2	1/2" white, hard, brittle, void space behind	North Stairwell door
		GH-CBK-068	8/23/2011	13	1/4" off-white, hard, brittle	Central Stair door west side
		GH-CBK-071	8/23/2011	2.0	1/2" grey, soft, flexible,sticky	Central Stair door east side
	Exterior Frame Caulking	GH-CBK-052	8/23/2011	<9.6	1/2" grey(tan hue),soft, slightly flexible,breaks when bent,tacky	Central stairwell door, east side, metal to brick joint
		GH-CBK-053	8/23/2011	<9.1	1/2" off white, hard, brittle,	North Stairwell door
Balcony Windows and Doors (Type B, C)	Exterior Frame to Concrete Caulking	GH-CBK-020	8/10/2011	33	1/2" light grey, flexible, sticky	East side 2nd floor balcony
		GH-CBK-028	8/10/2011	34.0	1/2" grey, flexible, soft, sticky	West Side 6th floor balcony

Notes:
All samples extracted by Soxhlet Method 3540C and analyzed for PCBs by USEPA Method 8082.
Analytical results with elevated reporting limits (i.e., > 10 ppm) due to matrix interferences. Samples were re-analyzed following fluorosil clean up to remove interferences; however the clean up was unsuccessfull.
l.f. = linear feet
Shaded and Bold results indicate total PCBs reported at concentrations ≥ 50 ppm.
J = Analtyical results qualified as estimated "J" due to surrogate recoveries or relative percent differences between column results outside acceptance criteria. See Appendix C for additional information.

Table 2-2

Summary of Adjacent Materials Characterization Sampling Results
Grayson and Field Houses
UMass Amherst

Window Unit	Adjacent Material	Sample Location and Description	Samples		Total PCBs (mg/kg)
			Sample ID	Distance from Joint (inches)	
West Elevation Storefront Windows and Doors	Lower Concrete Foundation	Sample taken 1 inch from caulking joint, west elevation	GH-CBC-080	1	0.77
	Stucco Soffit	Sample taken 5 inches from caulking joint, west elevation	GH-CBC-075	5	0.15
	Slate	Sample collected 1 inch from caulking joint, west elevation, 1st floor	GH-CBC-085	1	0.23
North, South and Central East Side Stairwell Windows	Interior Concrete Sills	Northern stair window, horizontal surface, sample collected 1 inch from caulking joint	GH-CBC-066	1	<0.96
		Central stairwell east side, horizontal surface, sample collected 1 inch from caulking	GH-CBC-070	1	0.27
Narrow Stairwell Windows	Adjacent Brick	Narrow stairwell (brick), sample collected from brick face adjacent to caulking joint, 1" from caulking	GH-CBB-078	1	<0.10

Notes:
All samples collected in accordance with USEPA Region 1 Standard Operating Procedure for Sampling Porous Surfaces for PCBs (May 2011).
All samples extracted by Soxhlet Method 3540C and analyzed for PCBs by USEPA Method 8082.
Total PCBs reported as Aroclor 1254. No other Aroclor reported at concentrations above the minimum laboratory reporting limits.

Table 2-3
Summary of Excluded Product Material Determination
Grayson and Field Houses
UMass Amherst

Sealant Category	Location	Material Description	Number of Samples	Characterization Sampling Summary
Exterior Caulking	First Floor Storefront Windows and Doors (except West Elevation locations), Ribbon Windows	Grey, soft, flexible to slightly flexible	8	All samples < 50 ppm. Average PCB Concentration (1): 5.8 ppm Total PCBs reported at concentrations of < 0.95, < 0.98, < 9.7, 0.9, 1.1, 4.1, 7.7, and 27 ppm.
	Dormitory Windows (Type A), Balcony Windows and Doors (Type B, C), Elevator Hall Windows (Type D),Narrow Stairwell Windows (Type G, H, I), Stairwell Windows (Type J), and Stairwell Doors (Type K)	Light grey to grey, soft, slightly flexible to flexible	22	All samples < 50 ppm. Average PCB Concentration (1): 28.8 ppm Total PCBs reported at concentrations of < 0.95, < 8.8, < 9.1, < 9.6, < 18, < 19, < 34, < 180, < 180, < 200, 3.6, 8.2, 8.3, 13, 22, 25, 33, 34, 35, 36, 36, and 49 ppm.
Interior Caulking	East Elevation Storefront Windows Grayson House Locations	Grey, soft, sticky	2	All samples < 50 ppm. Average PCB Concentration (1): 2.5 ppm. Total PCBs reported at a concentration of < 1.9 and 4.1 ppm.
	Elevator Hall Window (Type D)	Off-white/yellow soft, flakey	3	All samples < 50 ppm. Average PCB Concentration (1): 20.7 ppm. Total PCBs reported at a concentration of 10, 13, and 39 ppm.
	Dormitory Windows (Type A), Narrow Stairwell Windows (Type G, H, I), Central Stairwell West Side Windows (Type J), West Elevation Storefront Windows (Type N-02)	Tan, hard, brittle caulking	14	All samples < 50 ppm. Average PCB Concentration (1): 12.8 ppm. Total PCBs reported at concentrations of < 2.0, 2.2, 2.6, 4.4, 4.5, 9, 11, 12, 14, 16, 17, 24, 30, and 31 ppm.
	Stairwell Doors	Grey, soft, slightly flexible or Off-white, hard, brittle	3	All samples < 50 ppm. Average PCB Concentration (1): 5.7 ppm. Total PCBs reported at concentrations of 2.0, 2.2, and 13 ppm.
Glazing Sealants	Dormitory Windows (Type A), Balcony Windows and Doors (Type B, C), Elevator Hall Windows (Type D), Narrow Stairwell Windows (Type G, H, I), Stairwell Windows (Type J)	Light grey, soft, flakey	11	All samples < 50 ppm. Average PCB Concentration (1): 14.5 ppm. Total PCBs reported at concentrations of < 0.97, < 8.7,< 9.3, < 9.4, < 38, < 1902.6, 3.5, 4.2, 4.2, and 17 ppm.
	Storefront Windows and Doors (except west side elevation) and Ribbon Windows	Grey to Black, flexible to brittle	8	All samples < 50 ppm. Average PCB Concentration (1): 4.4 ppm. Total PCBs reported at concentrations of < 0.93, < 0.97, < 0.99, < 0.99, < 8.7, 4.5, 7.7, and 12 ppm.
	Elevator Hall Stairwell Window/Door	Black, soft, flexible, sticky	1	Total PCBs reported as non-detect (< 0.88 ppm)

Notes:
All samples extracted by Soxhlet Method 3540C and analyzed for PCBs by USEPA Method 8082.
All materials identified as Asbestos Containing Materials (ACM).
(1) Average concentration calculated using 1/2 detection limit for those results reported as non-detect.

Table 3-1
Summary of Proposed Remedial Activities
Grayson and Field Houses
UMass Amherst

Window Description	≥ 50 ppm Material	Material Description	Characterization Sample Summary	Planned Remediation
West Elevation Storefront Windows and Doors (Type N-02)	Exterior Frame Caulking (310 l.f.)	1/2" grey, soft, flexible	Total PCBs reported at concentrations of 66, 78, and 200 ppm.	Remove all caulking and sealants with window frames, door frames, and components (including glass) for off-site disposal as ≥ 50 ppm PCB waste and ACM. Remove stucco soffit materials to a disance of 5" from the caulked joint for disposal as ≥ 50 ppm PCB waste and ACM. Remaining portions of the soffit to be disposed of based on verification samples collected at a distance of 5" from the caulked joint. Adjacent building materials to be managed in place. Following removal, verification samples to be collected from building materials formerly in direct contact with and adjacent to the caulked joints as described in Section 5.3 and Table 3-2. Building materials identified as containing PCBs at concentrations > 1 ppm to be managed in-place as described in Section 10.
	Glazing Sealants (all locations)	1/8" light grey, soft, flakey	Total PCBs reported at concentrations of < 10, 60, 150, and 170 ppm.	
East Elevation Storefront Windows and Doors (Type N-02)	Interior Frame Caulking (18 l.f.)	1/2" grey soft	Total PCBs reported at a concentration of 75 ppm from one of two joints at Field.	Remove caulking along both vertical joints with window frames and components in direct contact (i.e., coated) with caulking for off-site disposal as ≥ 50 ppm PCB waste and ACM. Remaining portions of window and door frames and components (including glass) segregated for disposal as > 1 and < 50 ppm PCB waste and ACM. Adjacent CMU building materials to be managed in place. Following removal, verification samples to be collected from building materials formerly in direct contact with and adjacent to the caulked joints as described in Section 6.3 and Table 3-2. Building materials identified as containing PCBs at concentrations > 1 ppm to be managed in-place as described in Section 10.
Elevator Hall Windows (Type D)	Upper Horizontal Interior Frame Caulking (288 l.f.)	1/4" off-white, hard, brittle	Total PCBs reported at a concentration of 400 ppm.	Remove caulking along upper horizontal frame to CMU block joints and vertical metal to metal frame joints with window frames and components in direct contact (i.e., coated) with caulking for off-site disposal as ≥ 50 ppm PCB waste and ACM. Remaining portions of window and door frames and components (including glass) segregated for disposal as > 1 and < 50 ppm PCB waste and ACM. Adjacent CMU building materials to be managed in place. Following removal, verification samples to be collected from building materials formerly in direct contact with and adjacent to the caulked joints as described in Section 7.3 and Table 3-2. Building materials identified as containing PCBs at concentrations > 1 ppm to be managed in-place as described in Section 10.
	Interior Metal/Metal Caulking (144 l.f.)	3/4" grey, soft, flexible	Total PCBs reported at concentrations of 120,000 and 140,000 ppm.	
Narrow Stairwell Windows (Type G, H, and I)	Exterior Caulking (114 l.f.)	Outer Layer - 1" grey, soft, flexible. Inner Layer - 1/2" light grey, non-flexible, sticky surrounded by 1/2" off-white, non-flexible, sticky	Total PCBs reported at concentrations of 52 ppm.	Remove exterior caulking with window frames and components in direct contact (i.e., coated) with caulking for off-site disposal as ≥ 50 ppm PCB waste and ACM. Remaining portions of window frames and components (including glass) segregated for disposal as > 1 and < 50 ppm PCB waste and ACM. Adjacent exterior building materials to be managed in place. Following removal, verification samples to be collected from building materials formerly in direct contact with and adjacent to the caulked joints as described in Section 8.3 and Table 3-2. Building materials identified as containing PCBs at concentrations > 1 ppm to be managed in-place as described in Section 10.
North, South and Central East Side Stairwell Windows (Type J)	Interior Caulking (378 l.f.)	1/4" off-white, hard, flakey, brittle	Total PCBs reported at concentrations of 63 and 170 ppm.	Remove interior caulking with window frames and components in direct contact (i.e., coated) with caulking for off-site disposal as ≥ 50 ppm PCB waste and ACM. Remaining portions of window frames and components (including glass) segregated for disposal as > 1 and < 50 ppm PCB waste and ACM. Adjacent interior building materials to be managed in place. Following removal, verification samples to be collected from building materials formerly in direct contact with and adjacent to the caulked joints as described in Section 9.3 and Table 3-2. Building materials identified as containing PCBs at concentrations > 1 ppm to be managed in-place as described in Section 10.

Notes:
l.f. = linear feet
All window and door sealants considered Asbestos Containing Materials (ACM) based on results of hazardous building materials survey conducted by PEER Consultants of Burlington, Massachusetts.
All samples extracted by Soxhlet Method 3540C and analyzed for PCBs by USEPA Method 8082.
Linear footages represent approximate total linear footage for caulking materials identified as containing ≥ 50 ppm PCBs along both Grayson and Field Houses.

Table 3-2
Summary of Proposed Verification Sampling
Grayson and Field Houses
UMass Amherst

Remediation Plan Section	Sample Location	Quantity [1]	Sample Description	Sample Frequency	Total Number of Bulk Samples [1]	Total Number of Wipe Samples [4]
West Elevation Storefront Windows and Doors (Section 5)	Concrete Foundation	144 l.f.	Direct contact with former caulking	One per 50 l.f.	3	3
		144 l.f.	5 inches below the former caulking (down the face of the foundation)	One per 50 l.f.	3	N/A
	Slate Wall	22 l.f.	Direct contact with former caulking	One per building	2	2
		22 l.f.	3 inch lateral distance from former caulking	One per building	2	N/A
	Stucco Ceiling Overhang	144 l.f.	5 inches from the caulked joint (collected prior to removal for waste segregation purposes)	One per 25 l.f.	6	N/A
		144 l.f.	Materials formerly in direct contact with the stucco ceiling and remaining in place following removal	One per 25 l.f.	0 [2]	0 [2]
East Elevation Storefront Windows and Doors (Section 6)	CMU Block Wall	18 l.f.	Direct contact with former caulking	One per 25 l.f.	1	1
		18 l.f.	Beyond first 90-degree corner from former caulking	One per 25 l.f.	1	N/A
Elevator Hall Windows (Section 7)	CMU Block Wall	288 l.f.	Direct contact with former caulking	One per floor [3]	6	6
		288 l.f.	Immediately past the first 90 degree angle	One per floor [3]	6	6 [5]
Narrow Stairwell Windows (Section 8)	Brick Wall	114 l.f.	Direct contact with former caulking	One per 50 l.f.	3	3
		114 l.f.	Immediately past the first 90 degree angle	One per 50 l.f.	3	N/A
Stairwell Windows (Section 9)	Concrete Sill	126 l.f.	Direct contact with former caulking	One per 50 l.f.	3	3
		126 l.f.	Immediately past the first 90 degree angle	One per 50 l.f.	3	N/A
	Brick Wall	126 l.f.	Direct contact with former caulking	One per 50 l.f.	3	3
		126 l.f.	2 to 3 inches from the former caulked joint	One per 50 l.f.	3	N/A

Notes:
1. Listed quantities and number of samples are totals for both Grayson and Field Houses combined.
2. Based on construction information, no materials scheduled to remain in place are anticipated to be in direct contact with the stucco ceiling. If materials scheduled to remain in place are observed in direct contact, verification samples will be collected based on a sample frequency of one sample per 25 l.f. with a maximum of six samples collected.
3. One sample per floor corresponds to an approximate sample frequency of one sample per 50 l.f.
4. Maximum number of wipe samples. Wipe samples to be analyzed in areas of > 1 ppm PCBs detected during bulk testing.
5. Verification wipe samples to be collected from materials between metal cladding and the first 90-degree angle if required.

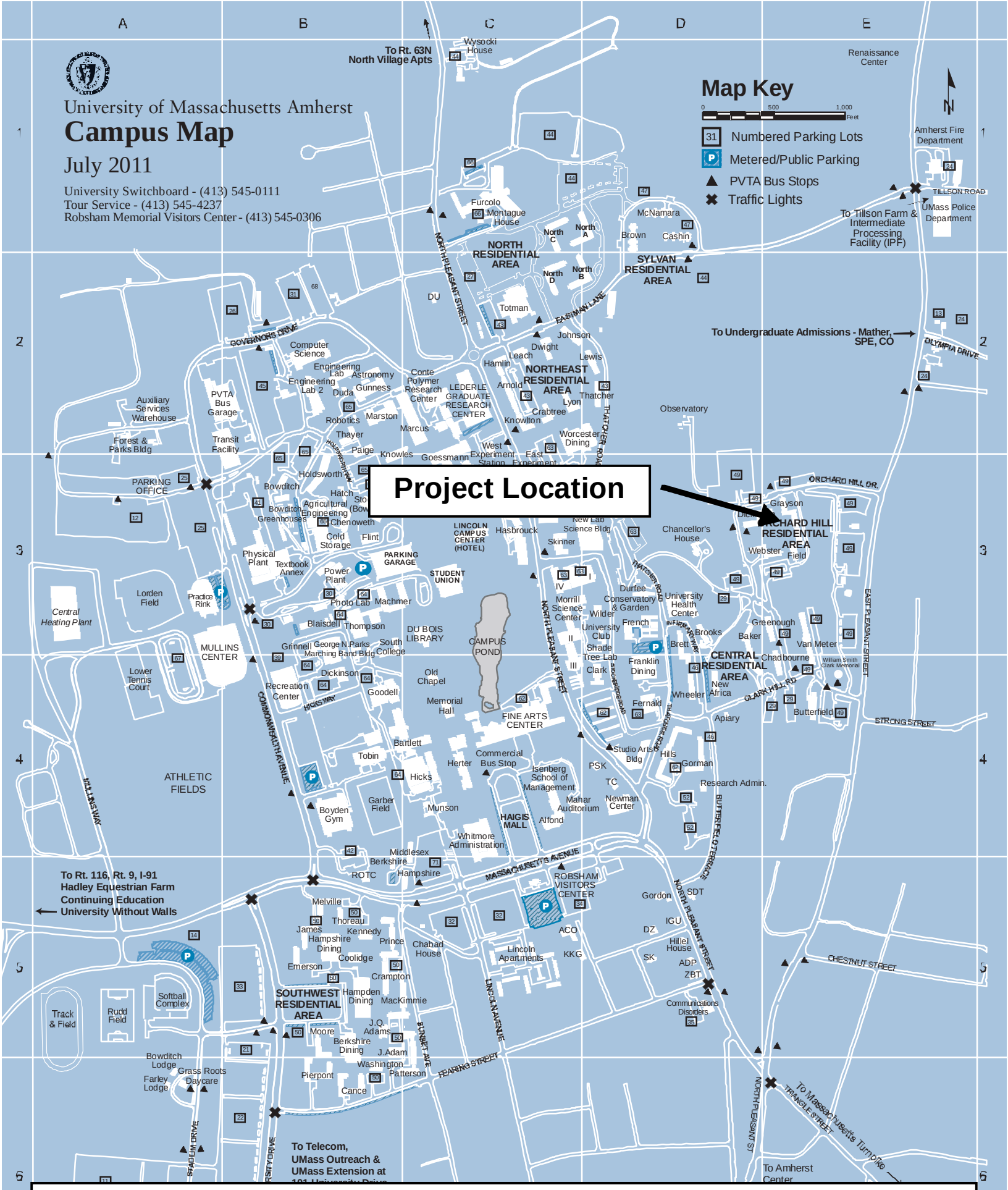


Figure 1-1 Site Location Map

APPENDIX A: WRITTEN CERTIFICATION

WOODARD &CURRAN

Certification

Project – Grayson and Field House Window Replacement Project
Orchard Hill Residential Area
141 Orchard Hill Drive
UMass Amherst

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

University of Massachusetts

Environmental Health and Safety

40 Campus Center Way

Amherst, MA 01003-9244

Property Owner and Party Conducting the Cleanup

Donald A Robinson

Authorized Signature

1-5-2012

Date

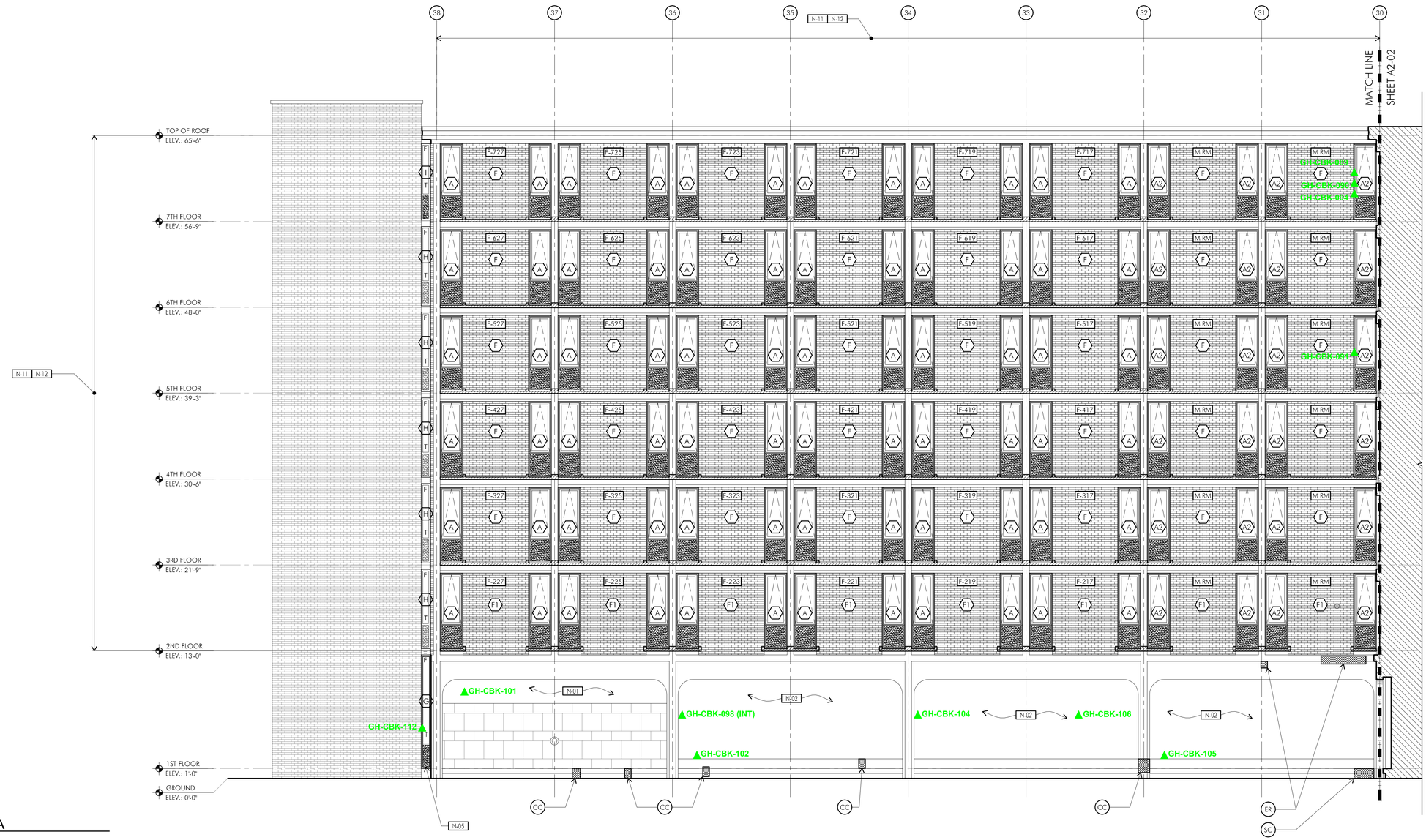
Donald Robinson

Name of Authorized representative (print)

Director, Env. Health + Safety

Title

APPENDIX B: PROJECT SPECIFICATION DRAWINGS WITH SAMPLE LOCATIONS



1 FIELD EAST ELEVATION A
SCALE: 3/16" = 1'-0"

LEGEND

- SC — SPALLING CONCRETE
- CC — CRACKED CONCRETE
- ER — EXPOSED REBAR
- XX — WINDOW TAG
- CONCRETE REPAIR AREA
- F-XXX — FIELD DORM ROOM NUMBERS
- G-XXX — GRAYSON DORM ROOM NUMBERS
- LIGHT SENSOR THROUGH MASONRY PANEL AND BACKUP WALL
- FLASHING
- * — PROVIDE TEMPERED SAFETY GLASS

NEW WORK NOTES:

N-01 INSTALL NEW RIBBON WINDOW SYSTEM AT FIRST FLOOR. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-02 INSTALL NEW STOREFRONT AND ENTRANCE DOOR SYSTEM AT FIRST FLOOR. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-03 INSTALL NEW PATIO DOOR AND WINDOW SYSTEM AT FIRST FLOOR APARTMENTS. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-04 INSTALL NEW PATIO DOOR/WINDOW SYSTEM AT QUAD/LOUNGE ROOMS AND APARTMENTS WITH BALCONY ACCESS ON FLOORS 2 TO 7. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-05 INSTALL NEW VERTICAL STRIP WINDOW SYSTEM AT STAIRWELLS. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

N-06 INSTALL NEW STOREFRONT AND ENTRANCE DOOR SYSTEM AT FIRST FLOOR STAIRWELLS. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

N-07 INSTALL NEW WINDOW SYSTEM AT FLOORS 2 TO 7 OF STAIR TOWERS. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-08 LOCATION OF EXISTING STRUCTURAL EXPANSION JOINT IN BUILDING.

N-09 INSTALL NEW AWNING WINDOW SYSTEM IN APARTMENT. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

N-10 INSTALL NEW WINDOW SYSTEM AT STAIR/ELEVATOR LOBBY ON FLOORS 2 TO 7. PROVIDE EXPANSION JOINT IN WINDOW SYSTEM. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-11 INSTALL NEW FACE BRICK PANELS BETWEEN WINDOWS IN DORM ROOMS. REINFORCE EXISTING 4" CMU BACKUP. INSTALL NEW COMBINATION VAPOR BARRIER/AIR BARRIER ON FACE OF EXISTING 4" CMU. INSTALL NEW 2" OF RIGID INSULATION IN CAVITY. INSTALL NEW MORTAR ENTRAPMENT MAT BETWEEN INSULATION AND BRICK. INSTALL NEW MASONRY TIES BETWEEN BACKUP 4" CMU AND FACE BRICK. INSTALL NEW FLASHING AT BRICK WORK. INSTALL NEW WEEPHOLES IN BRICK AT TOP AND BOTTOM OF CAVITY @ 24" ON CENTER MAXIMUM.

N-12 INSTALL NEW WINDOW SYSTEMS IN DORM ROOMS AND BATHROOMS ON FLOORS 2 TO 7. SEE WINDOW TYPES ON SHEETS A3-01 FOR ADDITIONAL INFORMATION.

N-13 SEE SHEETS A1-11, A1-12, A1-13, AND A1-14 FOR BALCONY/PORCH CONCRETE REPAIR AND RAILING REPAIRS.

N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

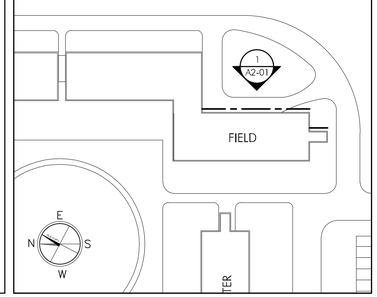
GH-CBK-090 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

(INT) SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY CBI CONSULTING, INC. MODIFIED WITH THE ADDITION OF CHARACTERIZATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DRAFT DESIGN DRAWINGS.
2. SAMPLE LOCATIONS APPROXIMATED BASED OFF FIELD MEASUREMENTS.

KEY PLAN



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CBI PROJECT NO. – 11157

REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

UMASS
UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
FIELD EAST ELEVATION A

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 39 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935-A2-01	

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1 FIELD EAST ELEVATION B
SCALE: 3/16" = 1'-0"

LEGEND

- SC — SPALLING CONCRETE
- CC — CRACKED CONCRETE
- ER — EXPOSED REBAR
- XX — WINDOW TAG
- CONCRETE REPAIR AREA
- F-XXX — FIELD DORM ROOM NUMBERS
- G-XXX — GRAYSON DORM ROOM NUMBERS
- LIGHT SENSOR THROUGH MASONRY PANEL AND BACKUP WALL
- FLASHING
- * — PROVIDE TEMPERED SAFETY GLASS

NEW WORK NOTES:

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N-02 INSTALL NEW STOREFRONT AND ENTRANCE DOOR SYSTEM AT FIRST FLOOR. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-03 INSTALL NEW PATIO DOOR AND WINDOW SYSTEM AT FIRST FLOOR APARTMENTS. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-04 INSTALL NEW PATIO DOOR/WINDOW SYSTEM AT QUAD/LOUNGE ROOMS AND APARTMENTS WITH BALCONY ACCESS ON FLOORS 2 TO 7. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-05 INSTALL NEW VERTICAL STRIP WINDOW SYSTEM AT STAIRWELLS. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

N-06 INSTALL NEW STOREFRONT AND ENTRANCE DOOR SYSTEM AT FIRST FLOOR STAIRWELLS. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

N-07 INSTALL NEW WINDOW SYSTEM AT FLOORS 2 TO 7 OF STAIR TOWERS. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-08 LOCATION OF EXISTING STRUCTURAL EXPANSION JOINT IN BUILDING.

N-09 INSTALL NEW AWNING WINDOW SYSTEM IN APARTMENT. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

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N-12 INSTALL NEW WINDOW SYSTEMS IN DORM ROOMS AND BATHROOMS ON FLOORS 2 TO 7. SEE WINDOW TYPES ON SHEETS A3-01 FOR ADDITIONAL INFORMATION.

N-13 SEE SHEETS A1-11, A1-12, A1-13, AND A1-14 FOR BALCONY/PORCH CONCRETE REPAIR AND RAILING REPAIRS.

N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

GH-CBK-107 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

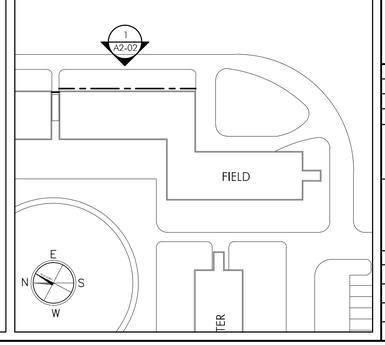
GH-CBC-070 ■ BUILDING MATERIAL SAMPLE LOCATION AND IDENTIFIER

INT SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY CBI CONSULTING, INC. MODIFIED WITH THE ADDITION OF CHARACTERIZATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DRAFT DESIGN DRAWINGS.
2. SAMPLE LOCATIONS APPROXIMATED BASED OFF FIELD MEASUREMENTS.

KEY PLAN



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CBI PROJECT NO. – 11157

REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

UMASS
UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
FIELD EAST ELEVATION B

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 40 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935- A2-02	

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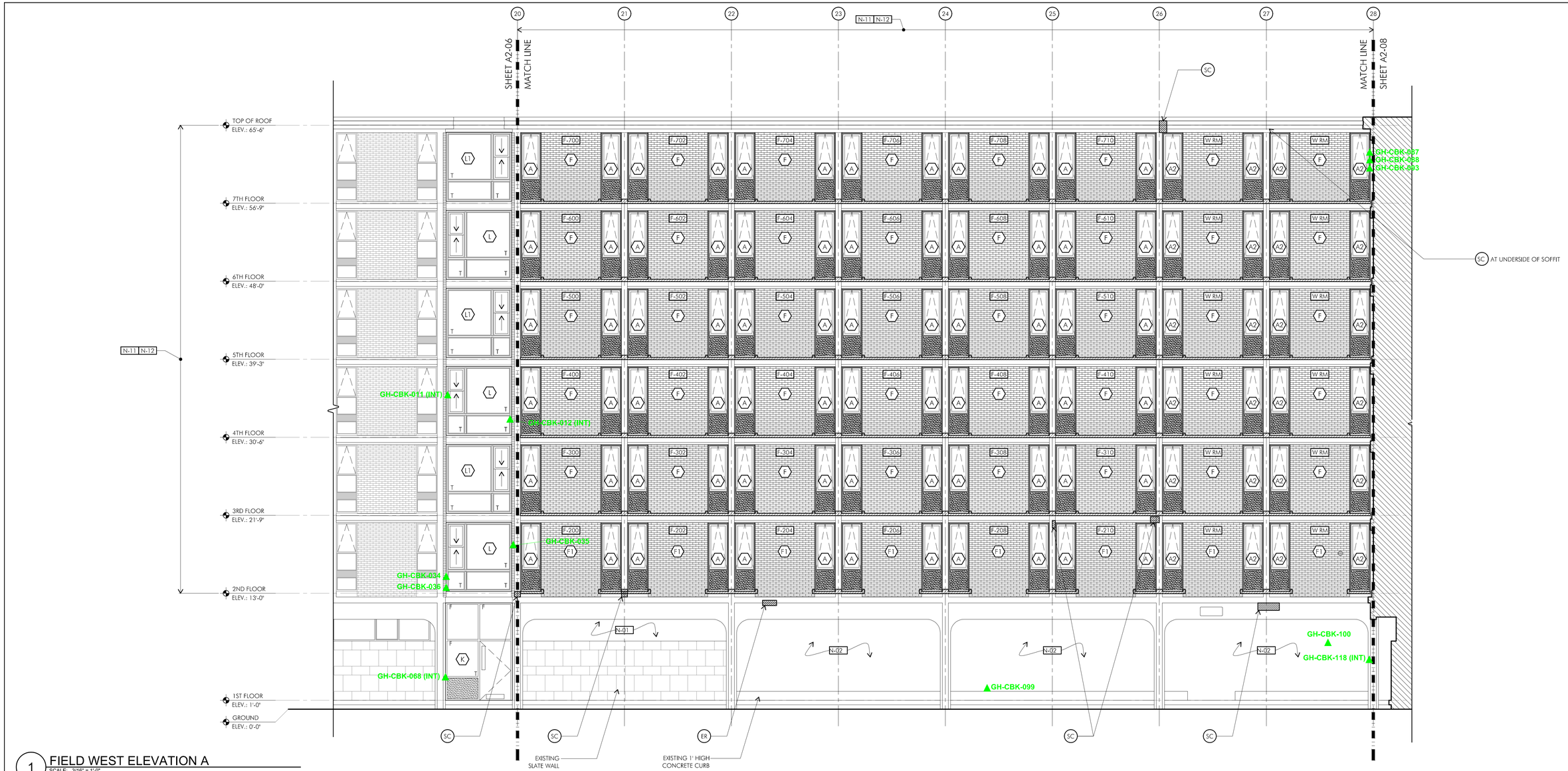

1 FIELD WEST ELEVATION A
SCALE: 3/16" = 1'-0"

LEGEND

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N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

GH-CBK-099 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

(INT) SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

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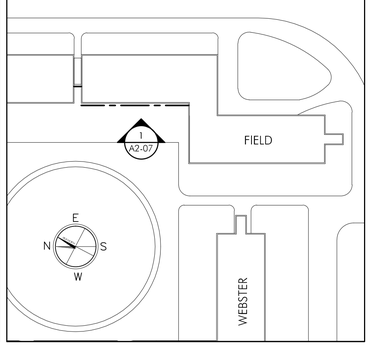
2. SAMPLE LOCATIONS APPROXIMATED BASED OFF FIELD MEASUREMENTS.

KEY PLAN



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CBI PROJECT NO. – 11157

REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

UMASS
UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
FIELD WEST ELEVATION A

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 45 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER D-A-330-11-000935- A2-07	
APP'D				

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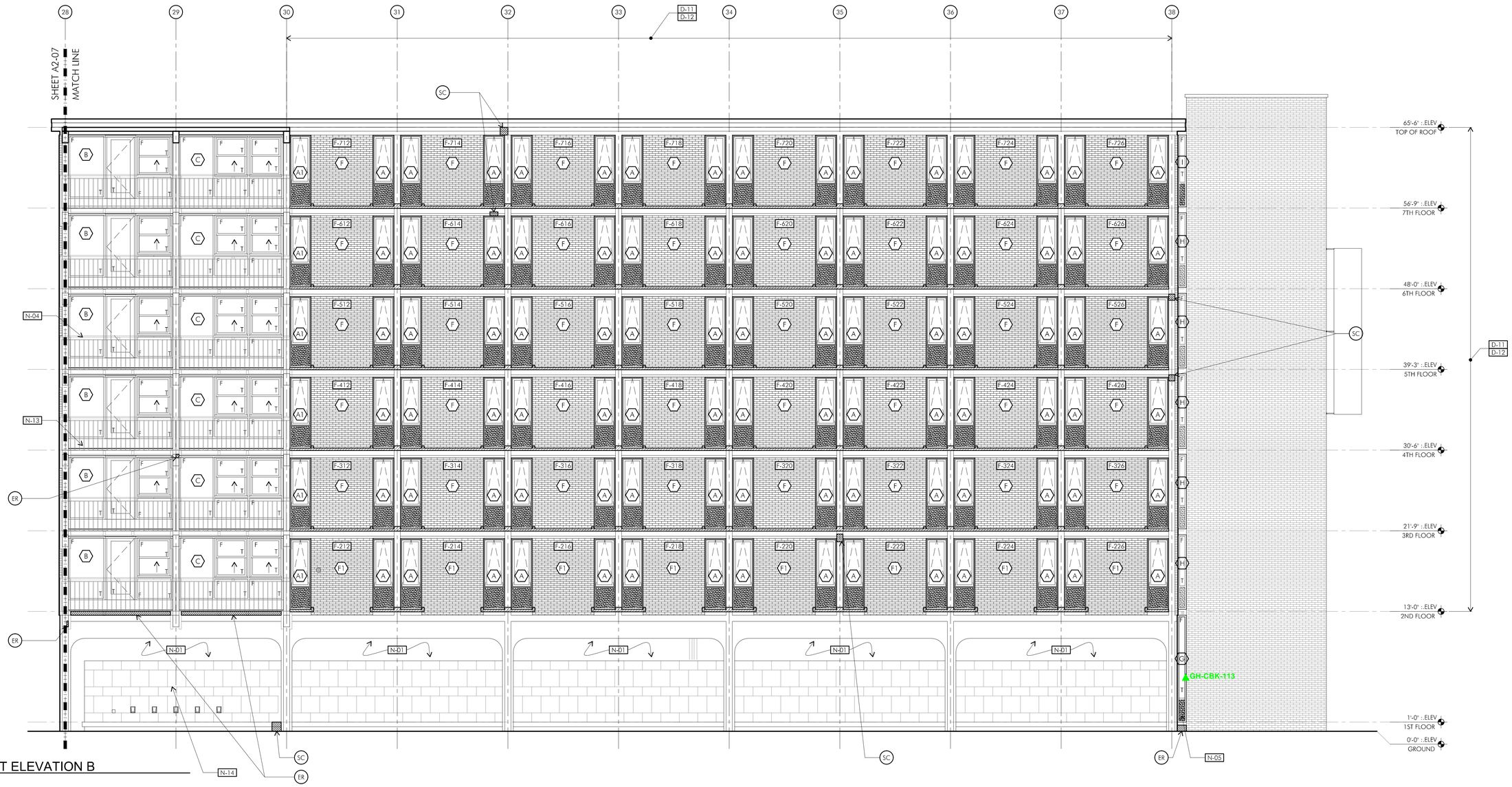

1 FIELD WEST ELEVATION B
SCALE: 3/16" = 1'-0"

LEGEND

- SC — SPALLING CONCRETE
- CC — CRACKED CONCRETE
- ER — EXPOSED REBAR
- XX — WINDOW TAG
- CONCRETE REPAIR AREA
- F-XXX — FIELD DORM ROOM NUMBERS
- G-XXX — GRAYSON DORM ROOM NUMBERS
- LIGHT SENSOR THROUGH MASONRY PANEL AND BACKUP WALL
- FLASHING
- * — PROVIDE TEMPERED SAFETY GLASS

NEW WORK NOTES:

N-01 INSTALL NEW RIBBON WINDOW SYSTEM AT FIRST FLOOR. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-02 INSTALL NEW STOREFRONT AND ENTRANCE DOOR SYSTEM AT FIRST FLOOR. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-03 INSTALL NEW PATIO DOOR AND WINDOW SYSTEM AT FIRST FLOOR APARTMENTS. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-04 INSTALL NEW PATIO DOOR/WINDOW SYSTEM AT QUAD/LOUNGE ROOMS AND APARTMENTS WITH BALCONY ACCESS ON FLOORS 2 TO 7. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-05 INSTALL NEW VERTICAL STRIP WINDOW SYSTEM AT STAIRWELLS. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

N-06 INSTALL NEW STOREFRONT AND ENTRANCE DOOR SYSTEM AT FIRST FLOOR STAIRWELLS. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

N-07 INSTALL NEW WINDOW SYSTEM AT FLOORS 2 TO 7 OF STAIR TOWERS. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-08 LOCATION OF EXISTING STRUCTURAL EXPANSION JOINT IN BUILDING.

N-09 INSTALL NEW AWNING WINDOW SYSTEM IN APARTMENT. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

N-10 INSTALL NEW WINDOW SYSTEM AT STAIR/ELEVATOR LOBBY ON FLOORS 2 TO 7. PROVIDE EXPANSION JOINT IN WINDOW SYSTEM. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

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N-12 INSTALL NEW WINDOW SYSTEMS IN DORM ROOMS AND BATHROOMS ON FLOORS 2 TO 7. SEE WINDOW TYPES ON SHEETS A3-01 FOR ADDITIONAL INFORMATION.

N-13 SEE SHEETS A1-11, A1-12, A1-13, AND A1-14 FOR BALCONY/PORCH CONCRETE REPAIR AND RAILING REPAIRS.

N-14 INSTALL NEW DRYER VENT THROUGH WALL.

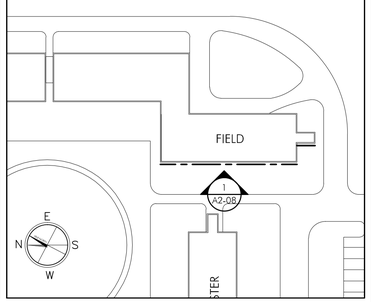
LEGEND

GH-CBK-113 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY CBI CONSULTING, INC. MODIFIED WITH THE ADDITION OF CHARACTERIZATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DRAFT DESIGN DRAWINGS.
2. SAMPLE LOCATIONS APPROXIMATED BASED OFF FIELD MEASUREMENTS.

KEY PLAN



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CBI PROJECT NO. – 11157

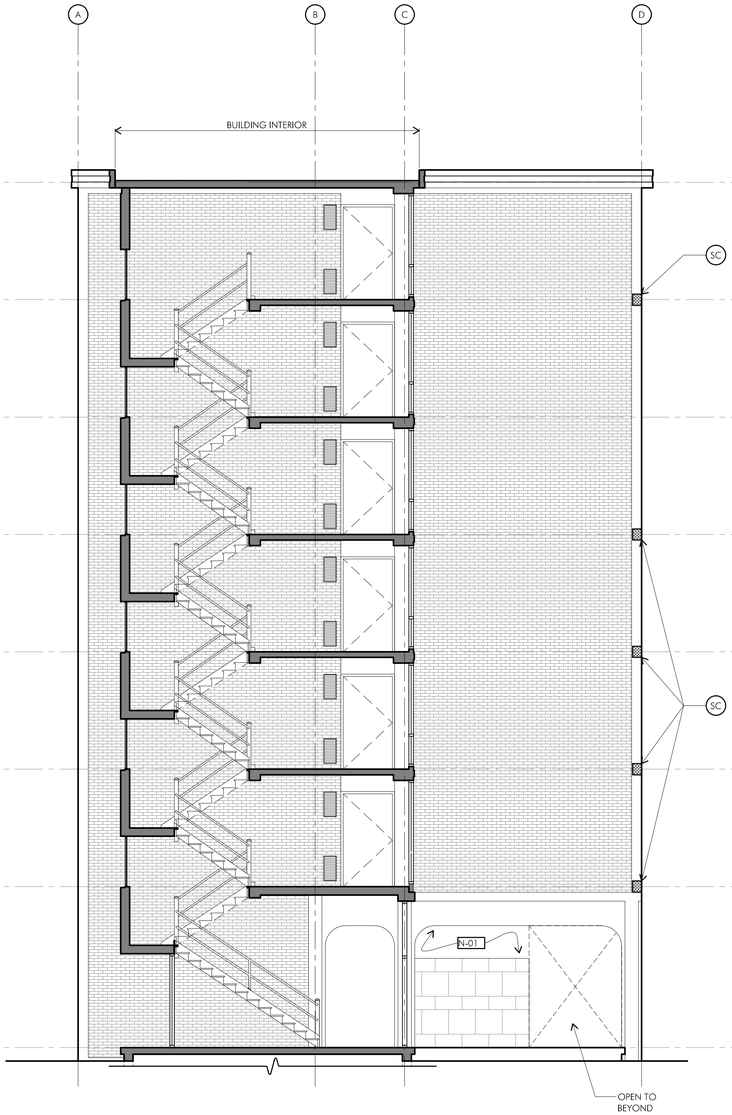
REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

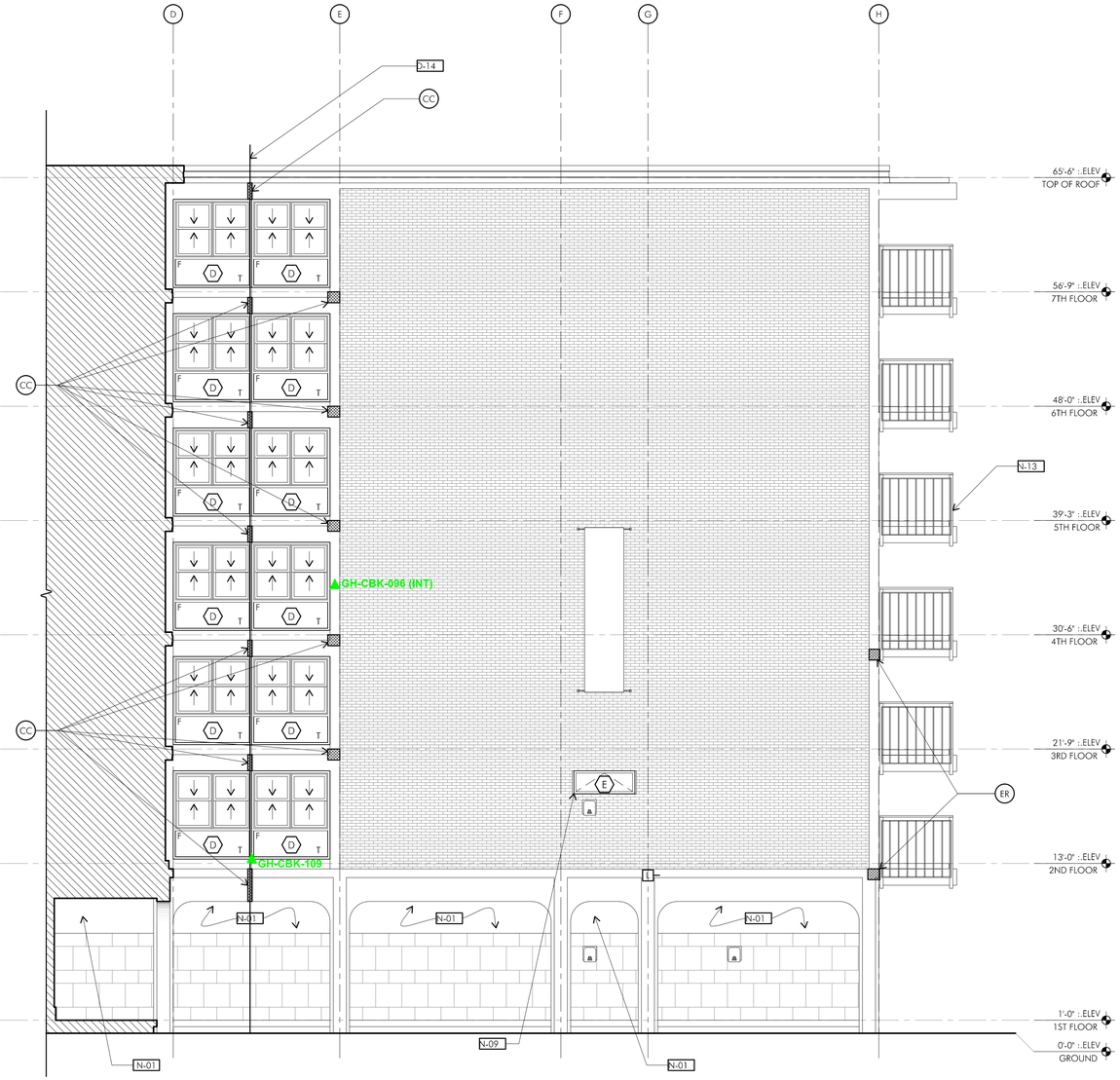
GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
FIELD WEST ELEVATION B

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 46 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935- A2-08	

\\ANDOVER\Projects\224824 UMass Amherst - Grayson House PCBs\wip\Drawings\Remediation Plan\FIELD HOUSE-11157-A2-08.dwg Nov 30, 2011 - 9:06 am ERUKA



1 FIELD NORTH ELEVATION/SECTION
SCALE: 3/16" = 1'-0"



2 FIELD NORTH ELEVATION
SCALE: 3/16" = 1'-0"

LEGEND

- SC — SPALLING CONCRETE
- CC — CRACKED CONCRETE
- ER — EXPOSED REBAR
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- F-XXX — FIELD DORM ROOM NUMBERS
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NEW WORK NOTES:

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N-13 SEE SHEETS A1-11, A1-12, A1-13, AND A1-14 FOR BALCONY/PORCH CONCRETE REPAIR AND RAILING REPAIRS.

N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

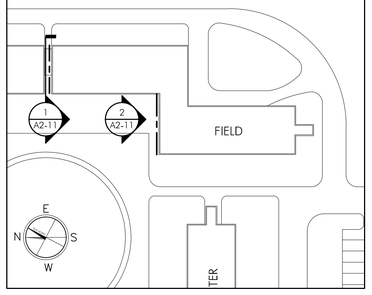
GH-CBK-096 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

(INT) SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY CBI CONSULTING, INC. MODIFIED WITH THE ADDITION OF CHARACTERIZATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DRAFT DESIGN DRAWINGS.
2. SAMPLE LOCATIONS APPROXIMATED BASED OFF FIELD MEASUREMENTS.

KEY PLAN



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CBI PROJECT NO. – 11157

REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

UMASS

UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
FIELD NORTH ELEVATION

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 49 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935-A2-11	

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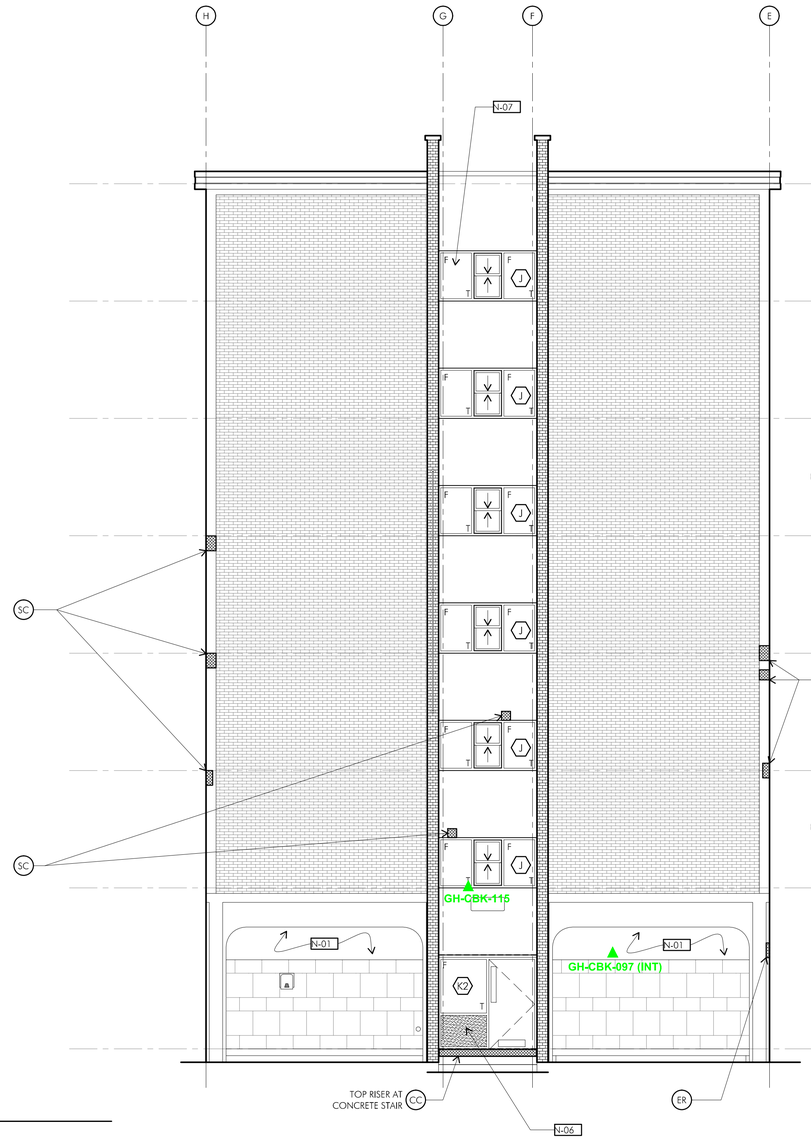
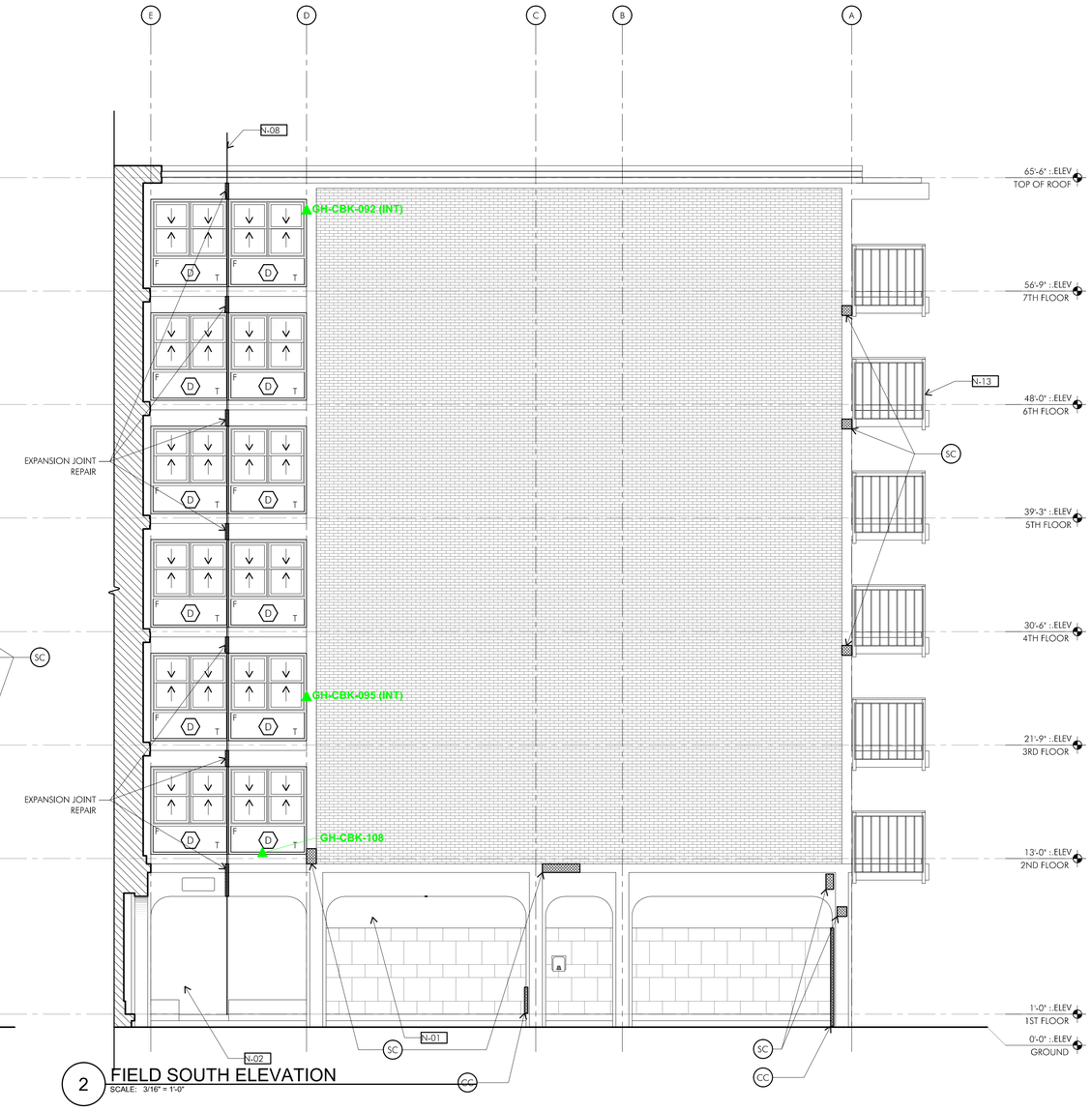


1 FIELD SOUTH ELEVATION
SCALE: 3/16" = 1'-0"



2 FIELD SOUTH ELEVATION
SCALE: 3/16" = 1'-0"

LEGEND

- SC — SPALLING CONCRETE
- CC — CRACKED CONCRETE
- ER — EXPOSED REBAR
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NEW WORK NOTES:

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N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

GH-CBK-097 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

INT SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

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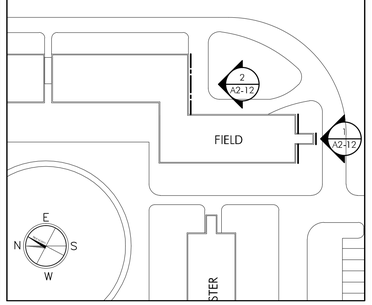
2. SAMPLE LOCATIONS APPROXIMATED BASED OFF FIELD MEASUREMENTS.

KEY PLAN



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CBI PROJECT NO. – 11157

REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

UMASS
UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
FIELD SOUTH ELEVATION

	BY	DATE		
DRN.	JAC	---	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
APP'D	ML	---	SCALE 3/16"=1'-0"	SHEET 50 OF 54
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935- A2-12	

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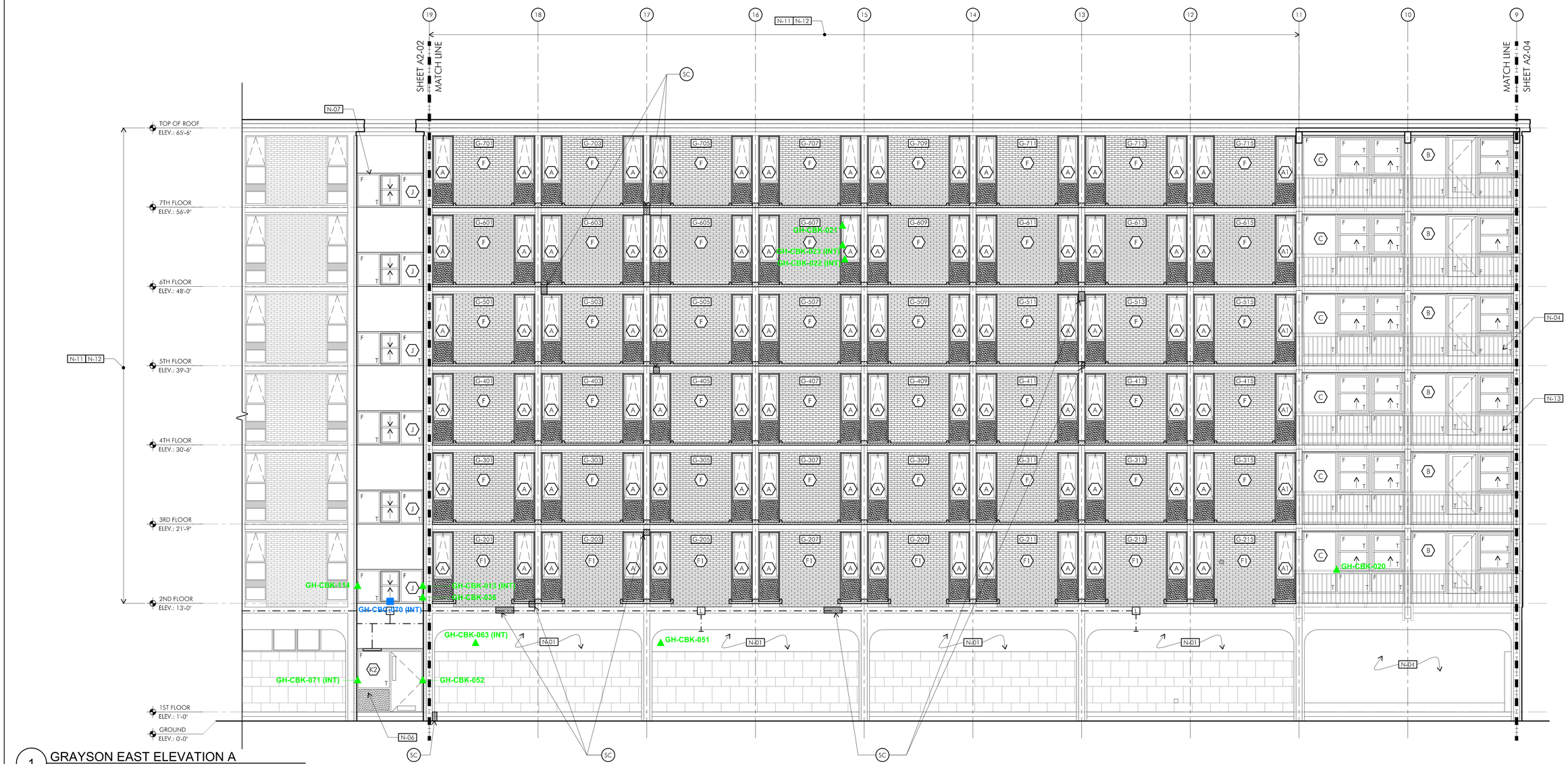

1 GRAYSON EAST ELEVATION A
SCALE: 3/16" = 1'-0"

LEGEND

- SC — SPALLING CONCRETE
- CC — CRACKED CONCRETE
- ER — EXPOSED REBAR
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NEW WORK NOTES:

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N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

GH-CBK-051 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

GH-CBC-070 ■ BUILDING MATERIAL SAMPLE LOCATION AND IDENTIFIER

INT SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY CBI CONSULTING, INC. MODIFIED WITH THE ADDITION OF CHARACTERIZATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DRAFT DESIGN DRAWINGS.

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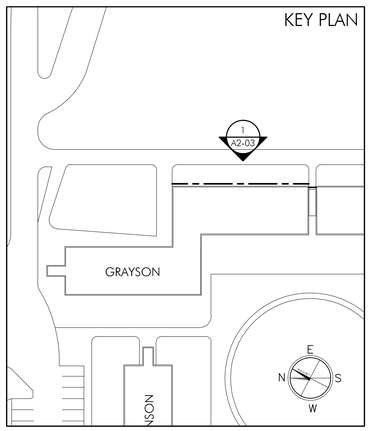

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REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
GRAYSON EAST ELEVATION B

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 41 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935-A2-03	

\\ANDOVER\Projects\224824 UMass Amherst – Grayson House PCBs\wip\Drawings\Remediation Plan\GRAYSON-11157-A2-03.dwg Nov 30 , 2011 – 9:07 am ERUKA

1 GRAYSON EAST ELEVATION B
SCALE: 3/16" = 1'-0"

LEGEND

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N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

GH-CBK-001 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

(INT) SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

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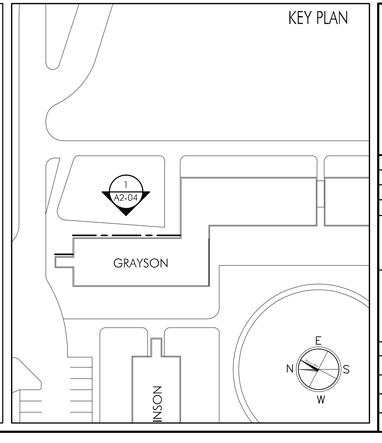
2. SAMPLE LOCATIONS APPROXIMATED BASED OFF FIELD MEASUREMENTS.

KEY PLAN



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cbi@cbiconsultinginc.com
www.cbiconsultinginc.com
CBI PROJECT NO. – 11157

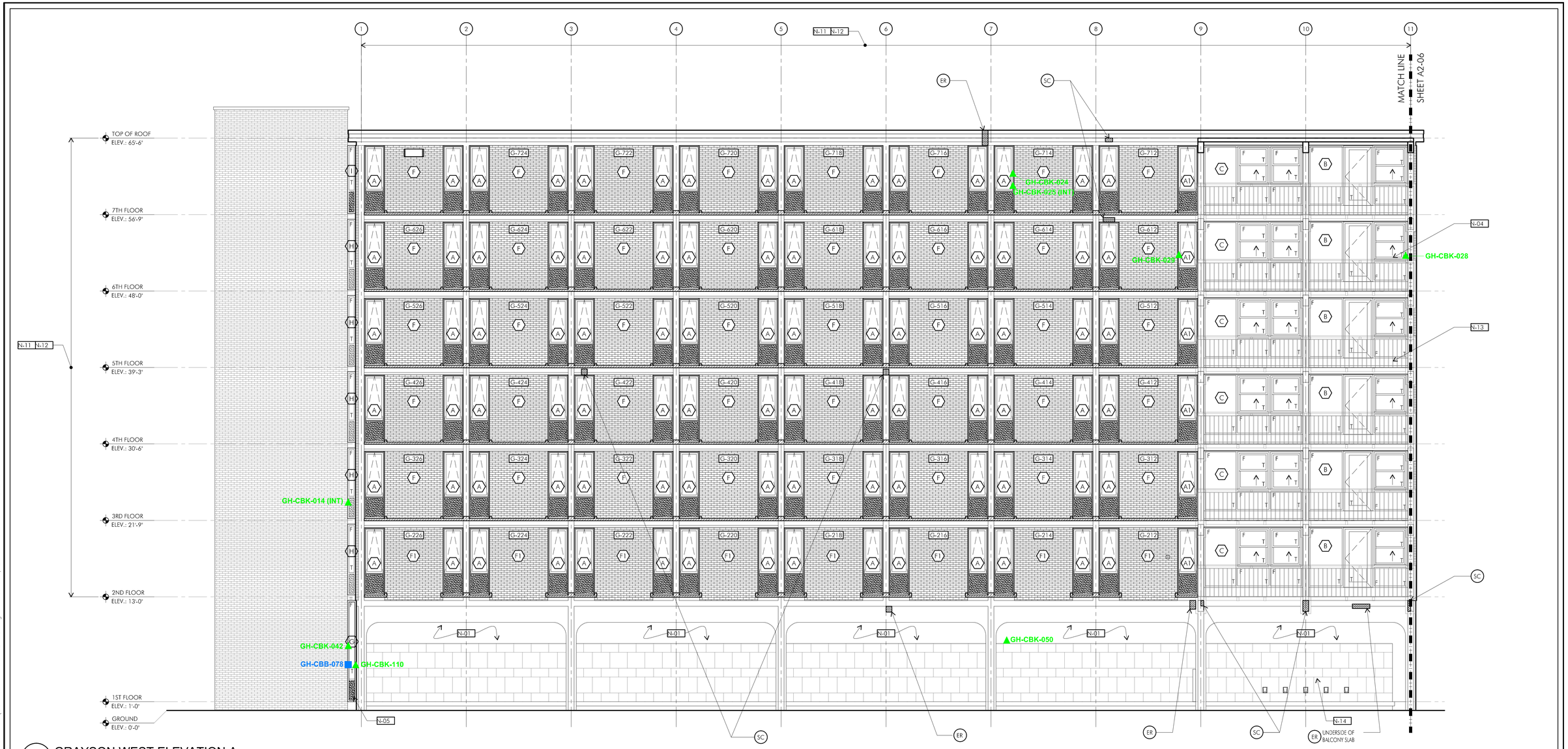
REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

UMASS — UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
GRAYSON EAST ELEVATION A

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 42 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935- A2-04	

\\ANDOVER\Projects\224824 UMass Amherst – Grayson House PCBs\wip\Drawings\Remediation Plan\GRAYSON-11157-A2-04.dwg Nov 30 , 2011 – 9:08 am ERUKA



1 GRAYSON WEST ELEVATION A
SCALE: 3/16" = 1'-0"

LEGEND

- SC — SPALLING CONCRETE
- CC — CRACKED CONCRETE
- ER — EXPOSED REBAR
- XX — WINDOW TAG
- CONCRETE REPAIR AREA
- F-XXX — FIELD DORM ROOM NUMBERS
- G-XXX — GRAYSON DORM ROOM NUMBERS
- LIGHT SENSOR THROUGH MASONRY PANEL AND BACKUP WALL
- FLASHING
- * — PROVIDE TEMPERED SAFETY GLASS

NEW WORK NOTES:

N-01 INSTALL NEW RIBBON WINDOW SYSTEM AT FIRST FLOOR. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-02 INSTALL NEW STOREFRONT AND ENTRANCE DOOR SYSTEM AT FIRST FLOOR. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-03 INSTALL NEW PATIO DOOR AND WINDOW SYSTEM AT FIRST FLOOR APARTMENTS. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

N-04 INSTALL NEW PATIO DOOR/WINDOW SYSTEM AT QUAD/LOUNGE ROOMS AND APARTMENTS WITH BALCONY ACCESS ON FLOORS 2 TO 7. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-05 INSTALL NEW VERTICAL STRIP WINDOW SYSTEM AT STAIRWELLS. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-06 INSTALL NEW STOREFRONT AND ENTRANCE DOOR SYSTEM AT FIRST FLOOR STAIRWELLS. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-07 INSTALL NEW WINDOW SYSTEM AT FLOORS 2 TO 7 OF STAIR TOWERS. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-08 LOCATION OF EXISTING STRUCTURAL EXPANSION JOINT IN BUILDING.

N-09 INSTALL NEW AWNING WINDOW SYSTEM IN APARTMENT. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-10 INSTALL NEW WINDOW SYSTEM AT STAIR/ELEVATOR LOBBY ON FLOORS 2 TO 7. PROVIDE EXPANSION JOINT IN WINDOW SYSTEM. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

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N-12 INSTALL NEW WINDOW SYSTEMS IN DORM ROOMS AND BATHROOMS ON FLOORS 2 TO 7. SEE WINDOW TYPES ON SHEETS A3-01 FOR ADDITIONAL INFORMATION.

N-13 SEE SHEETS A1-11, A1-12, A1-13, AND A1-14 FOR BALCONY/PORCH CONCRETE REPAIR AND RAILING REPAIRS.

N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

GH-CBK-050 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

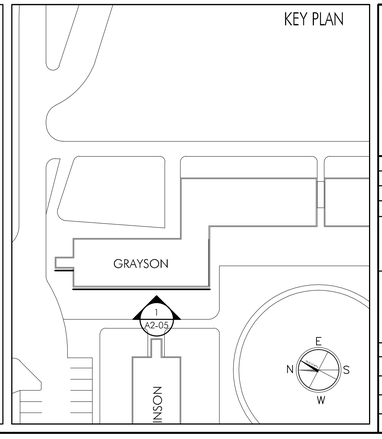
GH-CBC-078 ■ BUILDING MATERIAL SAMPLE LOCATION AND IDENTIFIER

INT SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY CBI CONSULTING, INC. MODIFIED WITH THE ADDITION OF CHARACTERIZATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DRAFT DESIGN DRAWINGS.
2. SAMPLE LOCATIONS APPROXIMATED BASED OFF FIELD MEASUREMENTS.

KEY PLAN



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REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
GRAYSON WEST ELEVATION A

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 43 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER D-A-330-11-000935-A2-05	
APP'D				

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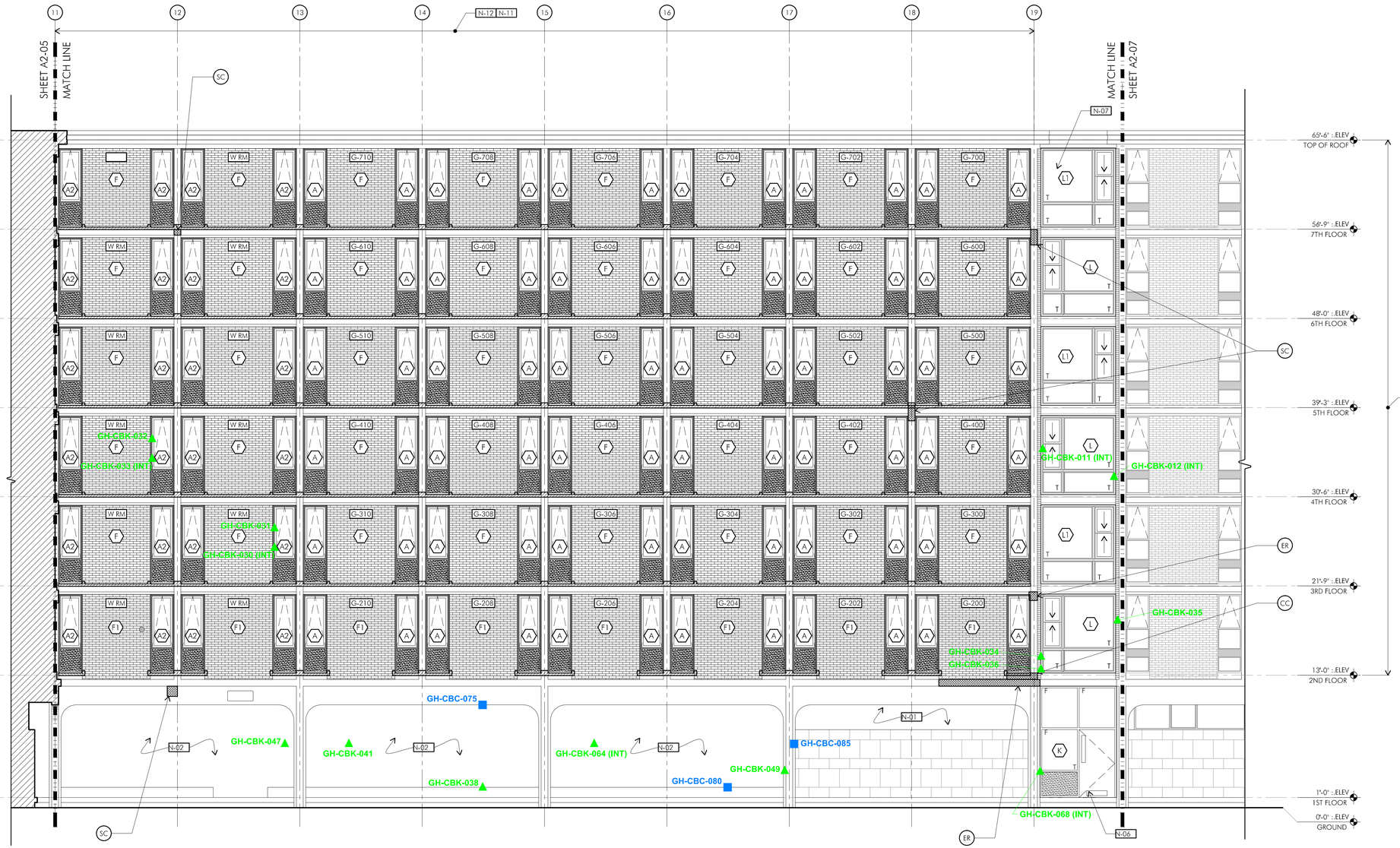

1 GRAYSON WEST ELEVATION B

SCALE: 3/16" = 1'-0"

LEGEND

SC	SPALLING CONCRETE
CC	CRACKED CONCRETE
ER	EXPOSED REBAR
XX	WINDOW TAG
	CONCRETE REPAIR AREA
F-XXX	FIELD DORM ROOM NUMBERS
G-XXX	GRAYSON DORM ROOM NUMBERS
	LIGHT SENSOR THROUGH MASONRY PANEL AND BACKUP WALL
	FLASHING
*	PROVIDE TEMPERED SAFETY GLASS

NEW WORK NOTES:

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N-03 INSTALL NEW PATIO DOOR AND WINDOW SYSTEM AT FIRST FLOOR APARTMENTS. SEE ELEVATIONS ON SHEETS A2-13 AND A2-14.

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N-06 INSTALL NEW STOREFRONT AND ENTRANCE DOOR SYSTEM AT FIRST FLOOR STAIRWELLS. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

N-07 INSTALL NEW WINDOW SYSTEM AT FLOORS 2 TO 7 OF STAIR TOWERS. SEE WINDOW TYPES ON SHEET A3-01 FOR ADDITIONAL INFORMATION.

N-08 LOCATION OF EXISTING STRUCTURAL EXPANSION JOINT IN BUILDING.

N-09 INSTALL NEW AWNING WINDOW SYSTEM IN APARTMENT. SEE WINDOW TYPES ON SHEET A3-01FOR ADDITIONAL INFORMATION.

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N-13 SEE SHEETS A1-11, A1-12, A1-13, AND A1-14 FOR BALCONY/PORCH CONCRETE REPAIR AND RAILING REPAIRS.

N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

GH-CBK-049 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

GH-CBC-080 ■ BUILDING MATERIAL SAMPLE LOCATION AND IDENTIFIER

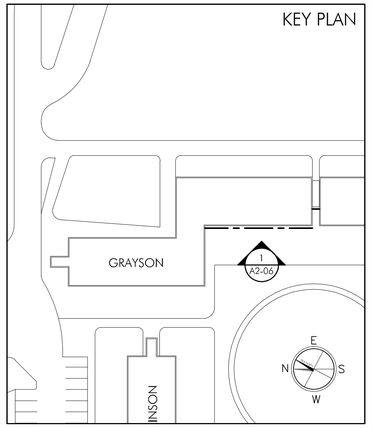
INT SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY CBI CONSULTING, INC. MODIFIED WITH THE ADDITION OF CHARACTERIZATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DRAFT DESIGN DRAWINGS.

2. SAMPLE LOCATIONS APPROXIMATED BASED OFF FIELD MEASUREMENTS.

KEY PLAN



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CBI PROJECT NO. – 11157

REV. NO.	DESCRIPTION	BY	APP'D	DATE
	SCHEMATIC DESIGN			10/19/11

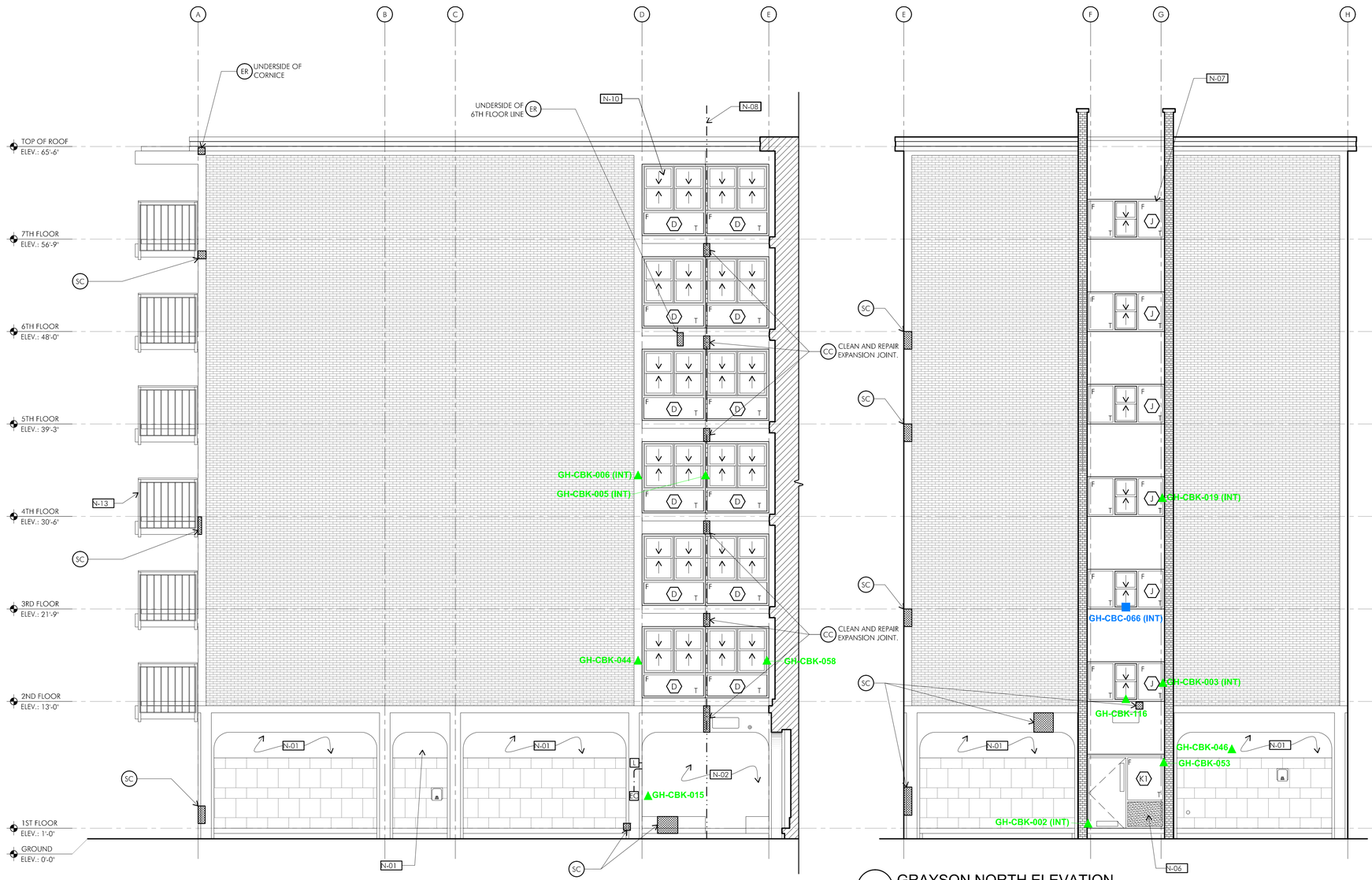
UMASS

UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
GRAYSON WEST ELEVATION B

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 44 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935- A2-06	

\\ANDOVER\Projects\224824 UMass Amherst – Grayson House PCBs\wip\Drawings\Remediation Plan\GRAYSON-11157-A2-06.dwg Nov 30 , 2011 – 9:10 am ERUKA



1 GRAYSON NORTH ELEVATION
SCALE: 3/16" = 1'-0"

2 GRAYSON NORTH ELEVATION
SCALE: 3/16" = 1'-0"

LEGEND

- SC — SPALLING CONCRETE
- CC — CRACKED CONCRETE
- ER — EXPOSED REBAR
- XX — WINDOW TAG
- CONCRETE REPAIR AREA
- F-XXX — FIELD DORM ROOM NUMBERS
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- FLASHING
- * — PROVIDE TEMPERED SAFETY GLASS

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N-13 SEE SHEETS A1-11, A1-12, A1-13, AND A1-14 FOR BALCONY/PORCH CONCRETE REPAIR AND RAILING REPAIRS.

N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

GH-CBK-116 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

GH-CBC-066 ■ BUILDING MATERIAL SAMPLE LOCATION AND IDENTIFIER

INT SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY CBI CONSULTING, INC. MODIFIED WITH THE ADDITION OF CHARACTERIZATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DRAFT DESIGN DRAWINGS.
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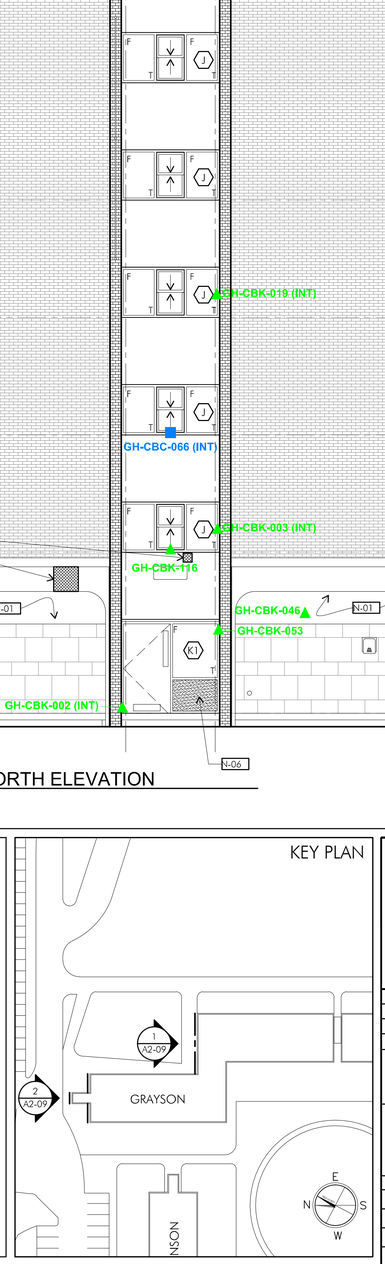
KEY PLAN



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	SCHEMATIC DESIGN			10/19/11

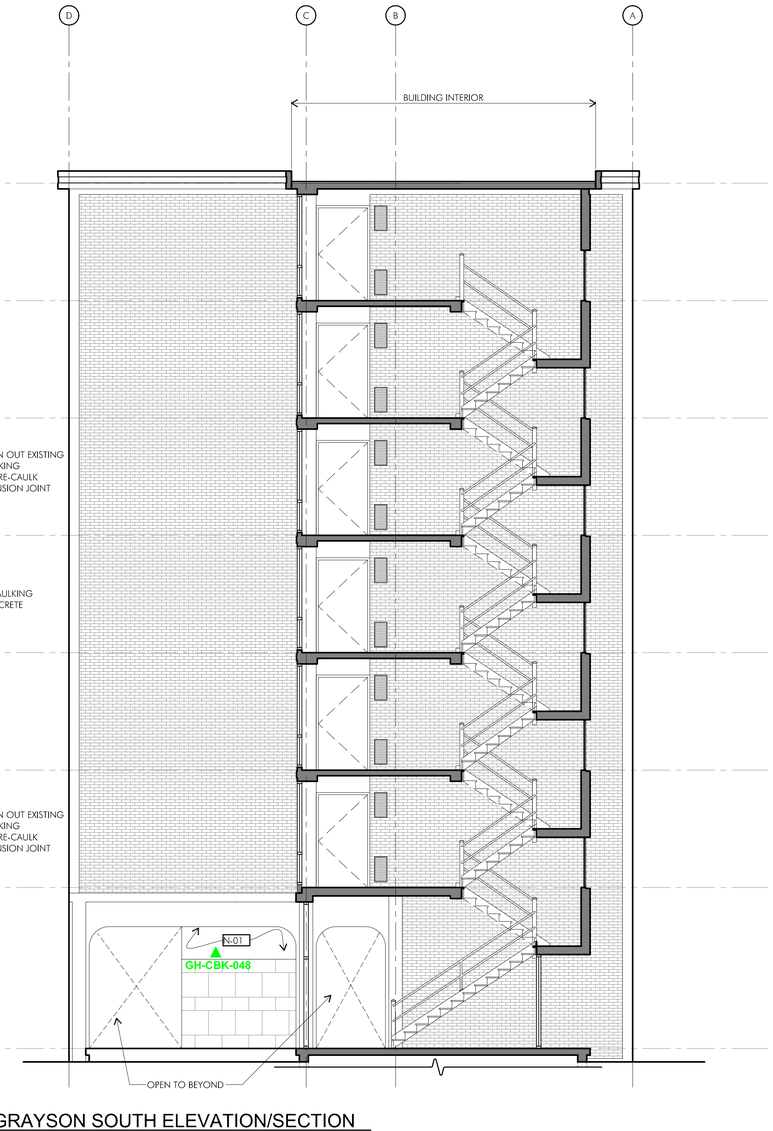
UMASS
UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

GRAYSON & FIELD HOUSE
WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
GRAYSON NORTH ELEVATION

	BY	DATE		
DRN.	JAC	---	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
APP'D	ML	---	SCALE 3/16"=1'-0"	SHEET 47 OF 54
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935-A2-09	

\\ANDOVER\Projects\224824 UMass Amherst – Grayson House PCBs\wip\Drawings\Remediation Plan\GRAYSON-11157-A2-09.dwg Nov 30 , 2011 – 9:11 am ERUKA

1 GRAYSON SOUTH ELEVATION/SECTION
SCALE: 3/16" = 1'-0"



2 GRAYSON SOUTH ELEVATION/SECTION
SCALE: 3/16" = 1'-0"

LEGEND

- SC — SPALLING CONCRETE
- CC — CRACKED CONCRETE
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N-14 INSTALL NEW DRYER VENT THROUGH WALL.

LEGEND

GH-CBK-062 ▲ CAULKING/SEALANT SAMPLE LOCATION AND IDENTIFIER

(INT) SAMPLE COLLECTED FROM INTERIOR LOCATION

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY CBI CONSULTING, INC. MODIFIED WITH THE ADDITION OF CHARACTERIZATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DRAFT DESIGN DRAWINGS.
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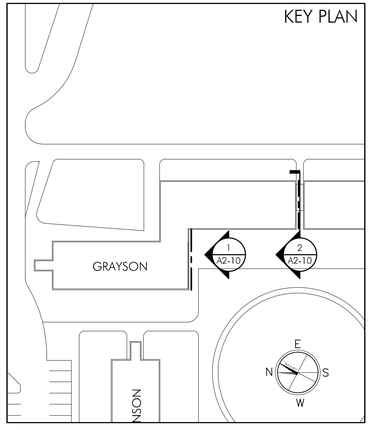

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WINDOW REPLACEMENT & ACCESSIBILITY MODIFICATIONS
GRAYSON SOUTH ELEVATION

	BY	DATE	PROJECT NO. 11-000935	CONTRACT NO. UMA 05-10A-06
DRN.	JAC	---	SCALE 3/16"=1'-0"	SHEET 48 OF 54
APP'D	ML	---		
CKD.			DRAWING NUMBER	
APP'D			D-A-330-11-000935- A2-10	

\\ANDOVER\Projects\224824 UMass Amherst – Grayson House PCBs\wip\Drawings\Remediation Plan\GRAYSON-11157-A2-10.dwg Nov 30, 2011 – 9:11 am ERUKA

APPENDIX C: LABORATORY ANALYTICAL REPORTS & DATA VALIDATION SUMMARY

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

November 9, 2011

George Franklin
Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810

Project Location: UMASS Amherst, MA
Client Job Number:
Project Number: 224824
Laboratory Work Order Number: 11H0428

Enclosed are results of analyses for samples received by the laboratory on August 10, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810
ATTN: George Franklin

REPORT DATE: 11/9/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224824

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11H0428

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

PROJECT LOCATION: UMASS Amherst, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GH-CBK-001	11H0428-01	Caulk		SW-846 8082A	
GH-CBK-002	11H0428-02	Caulk		SW-846 8082A	
GH-CBK-003	11H0428-03	Caulk		SW-846 8082A	
GH-CBK-004	11H0428-04	Caulk		SW-846 8082A	
GH-CBK-005	11H0428-05	Caulk		SW-846 8082A	
GH-CBK-006	11H0428-06	Caulk		SW-846 8082A	
GH-CBK-007	11H0428-07	Caulk		SW-846 8082A	
GH-CBKD-008	11H0428-08	Caulk		SW-846 8082A	
GH-CBK-009	11H0428-09	Caulk		SW-846 8082A	
GH-CBK-010	11H0428-10	Caulk		SW-846 8082A	
GH-CBK-011	11H0428-11	Caulk		SW-846 8082A	
GH-CBK-012	11H0428-12	Caulk		SW-846 8082A	
GH-CBK-013	11H0428-13	Caulk		SW-846 8082A	
GH-CBK-014	11H0428-14	Caulk		SW-846 8082A	
GH-CBK-015	11H0428-15	Caulk		SW-846 8082A	
GH-CBK-016	11H0428-16	Caulk		SW-846 8082A	
GH-CBK-017	11H0428-17	Caulk		SW-846 8082A	
GH-CBK-018	11H0428-18	Caulk		SW-846 8082A	
GH-CBK-019	11H0428-19	Caulk		SW-846 8082A	
GH-CBK-020	11H0428-20	Caulk		SW-846 8082A	
GH-CBK-021	11H0428-21	Caulk		SW-846 8082A	
GH-CBK-022	11H0428-22	Caulk		SW-846 8082A	
GH-CBK-023	11H0428-23	Caulk		SW-846 8082A	
GH-CBK-024	11H0428-24	Caulk		SW-846 8082A	
GH-CBK-025	11H0428-25	Caulk		SW-846 8082A	
GH-CBK-026	11H0428-26	Caulk		SW-846 8082A	
GH-CBK-027	11H0428-27	Caulk		SW-846 8082A	
GH-CBK-028	11H0428-28	Caulk		SW-846 8082A	
GH-CBK-029	11H0428-29	Caulk		SW-846 8082A	
GH-CBK-030	11H0428-30	Caulk		SW-846 8082A	
GH-CBK-031	11H0428-31	Caulk		SW-846 8082A	
GH-CBK-032	11H0428-32	Caulk		SW-846 8082A	
GH-CBK-033	11H0428-33	Caulk		SW-846 8082A	
GH-CBK-034	11H0428-34	Caulk		SW-846 8082A	
GH-CBK-035	11H0428-35	Caulk		SW-846 8082A	
GH-CBK-036	11H0428-36	Caulk		SW-846 8082A	
GH-CBK-037	11H0428-37	Caulk		SW-846 8082A	
GH-CBK-038	11H0428-38	Caulk		SW-846 8082A	
GH-CBK-039	11H0428-39	Caulk		SW-846 8082A	
GH-CBKD-040	11H0428-40	Caulk		SW-846 8082A	
GH-CBK-041	11H0428-41	Caulk		SW-846 8082A	

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Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810
ATTN: George Franklin

REPORT DATE: 11/9/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224824

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11H0428

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

PROJECT LOCATION: UMASS Amherst, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GH-CBK-042	11H0428-42	Caulk		SW-846 8082A	
GH-CBK-043	11H0428-43	Caulk		SW-846 8082A	
GH-CBK-044	11H0428-44	Caulk		SW-846 8082A	
GH-CBK-045	11H0428-45	Caulk		SW-846 8082A	
GH-CBKQ-046	11H0428-46	Water		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

REVISED REPORT - 11/09/2011 - Revised RPD report added and Z-01 qualifer removed.

rEVISED REPORT - 09/30/2011 - Original results for samples 11H0428-17, -29, -32, -34, -36, -37 were reported at elevated reporting limits.

REVISED REPORT - 09/28/2011 - Second florisol ceanup performed on sample -24 per clients request.

Revised report 08/29/2011: Samples 11H0428-17, -24, -29, -32, -34, -36, and -37 had an enhanced florisil clean up performed.

SW-846 8082A

Qualifications:

Elevated detection limit due to matrix.

Analyte & Samples(s) Qualified:

11H0428-17[GH-CBK-017], 11H0428-29[GH-CBK-029], 11H0428-32[GH-CBK-032], 11H0428-34[GH-CBK-034], 11H0428-36[GH-CBK-036], 11H0428-37[GH-CBK-037]

Con-Test Analytical laboratory's enhanced Florisil clean-up was performed on this sample.

Analyte & Samples(s) Qualified:

11H0428-17[GH-CBK-017], 11H0428-24[GH-CBK-024], 11H0428-29[GH-CBK-029], 11H0428-32[GH-CBK-032], 11H0428-34[GH-CBK-034], 11H0428-36[GH-CBK-036], 11H0428-37[GH-CBK-037]

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]

11H0428-04[GH-CBK-004], 11H0428-05[GH-CBK-005], 11H0428-07[GH-CBK-007], 11H0428-08[GH-CBKD-008], 11H0428-13[GH-CBK-013], 11H0428-17[GH-CBK-017], 11H0428-20[GH-CBK-020], 11H0428-29[GH-CBK-029], 11H0428-32[GH-CBK-032], 11H0428-34[GH-CBK-034], 11H0428-36[GH-CBK-036], 11H0428-37[GH-CBK-037], 11H0428-38[GH-CBK-038], 11H0428-41[GH-CBK-041], 11H0428-42[GH-CBK-042], 11H0428-44[GH-CBK-044]

Surrogate recovery outside of control limits due to suspected sample matrix interference.

Analyte & Samples(s) Qualified:

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

11H0428-03[GH-CBK-003], 11H0428-09[GH-CBK-009], 11H0428-12[GH-CBK-012]

For the caulking sample, opening calibration verification was within control criteria. Closing calibration verification was outside of criteria and biased on the low side. Matrix interference is suspected, reported results are estimated.

Analyte & Samples(s) Qualified:

11H0428-01[GH-CBK-001], 11H0428-02[GH-CBK-002], 11H0428-03[GH-CBK-003], 11H0428-04[GH-CBK-004], 11H0428-05[GH-CBK-005], 11H0428-06[GH-CBK-006], 11H0428-07[GH-CBK-007], 11H0428-08[GH-CBKD-008], 11H0428-09[GH-CBK-009], 11H0428-10[GH-CBK-010], 11H0428-11[GH-CBK-011], 11H0428-12[GH-CBK-012], 11H0428-13[GH-CBK-013], 11H0428-14[GH-CBK-014], 11H0428-15[GH-CBK-015], 11H0428-16[GH-CBK-016], 11H0428-18[GH-CBK-018], 11H0428-19[GH-CBK-019], 11H0428-20[GH-CBK-020]

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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: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-001 | Sampled: 8/10/2011 10:00

Sample ID: 11H0428-01

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 11:51	PJG
Aroclor-1221 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 11:51	PJG
Aroclor-1232 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 11:51	PJG
Aroclor-1242 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 11:51	PJG
Aroclor-1248 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 11:51	PJG
Aroclor-1254 [2]	4.1	0.89	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 11:51	PJG
Aroclor-1260 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 11:51	PJG
Aroclor-1262 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 11:51	PJG
Aroclor-1268 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 11:51	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	51.9	30-150		8/18/11 11:51
Decachlorobiphenyl [2]	68.2	30-150		8/18/11 11:51
Tetrachloro-m-xylene [1]	141	30-150		8/18/11 11:51
Tetrachloro-m-xylene [2]	124	30-150		8/18/11 11:51

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-002 | Sampled: 8/10/2011 10:25

Sample ID: 11H0428-02

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:04	PJG
Aroclor-1221 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:04	PJG
Aroclor-1232 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:04	PJG
Aroclor-1242 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:04	PJG
Aroclor-1248 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:04	PJG
Aroclor-1254 [2]	2.2	0.88	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:04	PJG
Aroclor-1260 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:04	PJG
Aroclor-1262 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:04	PJG
Aroclor-1268 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:04	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	72.2	30-150		8/18/11 12:04
Decachlorobiphenyl [2]	72.7	30-150		8/18/11 12:04
Tetrachloro-m-xylene [1]	80.8	30-150		8/18/11 12:04
Tetrachloro-m-xylene [2]	83.7	30-150		8/18/11 12:04

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-003 | Sampled: 8/10/2011 10:30

Sample ID: 11H0428-03

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:17	PJG
Aroclor-1221 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:17	PJG
Aroclor-1232 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:17	PJG
Aroclor-1242 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:17	PJG
Aroclor-1248 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:17	PJG
Aroclor-1254 [1]	4.2	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:17	PJG
Aroclor-1260 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:17	PJG
Aroclor-1262 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:17	PJG
Aroclor-1268 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:17	PJG

Surrogates	% Recovery		Recovery Limits	Flag	
Decachlorobiphenyl [1]	133		30-150		8/18/11 12:17
Decachlorobiphenyl [2]	126		30-150		8/18/11 12:17
Tetrachloro-m-xylene [1]	**211**	*	30-150	S-03	8/18/11 12:17
Tetrachloro-m-xylene [2]	**169**	*	30-150	S-03	8/18/11 12:17

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-004 | Sampled: 8/10/2011 10:40

Sample ID: 11H0428-04

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.8	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 10:52	PJG
Aroclor-1221 [1]	ND	3.8	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 10:52	PJG
Aroclor-1232 [1]	ND	3.8	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 10:52	PJG
Aroclor-1242 [1]	ND	3.8	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 10:52	PJG
Aroclor-1248 [1]	ND	3.8	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 10:52	PJG
Aroclor-1254 [1]	14	3.8	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 10:52	PJG
Aroclor-1260 [1]	ND	3.8	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 10:52	PJG
Aroclor-1262 [1]	ND	3.8	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 10:52	PJG
Aroclor-1268 [1]	ND	3.8	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 10:52	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/18/11 10:52
Decachlorobiphenyl [2]	*	30-150	S-01	8/18/11 10:52
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/18/11 10:52
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/18/11 10:52

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-005 | Sampled: 8/10/2011 10:50

Sample ID: 11H0428-05

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9400	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:06	PJG
Aroclor-1221 [1]	ND	9400	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:06	PJG
Aroclor-1232 [1]	ND	9400	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:06	PJG
Aroclor-1242 [1]	ND	9400	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:06	PJG
Aroclor-1248 [1]	ND	9400	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:06	PJG
Aroclor-1254 [1]	120000	9400	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:06	PJG
Aroclor-1260 [1]	ND	9400	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:06	PJG
Aroclor-1262 [1]	ND	9400	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:06	PJG
Aroclor-1268 [1]	ND	9400	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:06	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/18/11 11:06
Decachlorobiphenyl [2]	*	30-150	S-01	8/18/11 11:06
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/18/11 11:06
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/18/11 11:06

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-006 | Sampled: 8/10/2011 10:55

Sample ID: 11H0428-06

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:08	PJG
Aroclor-1221 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:08	PJG
Aroclor-1232 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:08	PJG
Aroclor-1242 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:08	PJG
Aroclor-1248 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:08	PJG
Aroclor-1254 [2]	10	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:08	PJG
Aroclor-1260 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:08	PJG
Aroclor-1262 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:08	PJG
Aroclor-1268 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:08	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	51.0	30-150		8/18/11 14:08
Decachlorobiphenyl [2]	54.5	30-150		8/18/11 14:08
Tetrachloro-m-xylene [1]	84.6	30-150		8/18/11 14:08
Tetrachloro-m-xylene [2]	96.9	30-150		8/18/11 14:08

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-007 | Sampled: 8/10/2011 11:00

Sample ID: 11H0428-07

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9600	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:34	PJG
Aroclor-1221 [1]	ND	9600	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:34	PJG
Aroclor-1232 [1]	ND	9600	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:34	PJG
Aroclor-1242 [1]	ND	9600	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:34	PJG
Aroclor-1248 [1]	ND	9600	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:34	PJG
Aroclor-1254 [2]	140000	9600	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:34	PJG
Aroclor-1260 [1]	ND	9600	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:34	PJG
Aroclor-1262 [1]	ND	9600	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:34	PJG
Aroclor-1268 [1]	ND	9600	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:34	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/18/11 11:34
Decachlorobiphenyl [2]	*	30-150	S-01	8/18/11 11:34
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/18/11 11:34
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/18/11 11:34

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBKD-008 | Sampled: 8/10/2011 11:00

Sample ID: 11H0428-08

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9700	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:48	PJG
Aroclor-1221 [1]	ND	9700	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:48	PJG
Aroclor-1232 [1]	ND	9700	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:48	PJG
Aroclor-1242 [1]	ND	9700	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:48	PJG
Aroclor-1248 [1]	ND	9700	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:48	PJG
Aroclor-1254 [1]	110000	9700	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:48	PJG
Aroclor-1260 [1]	ND	9700	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:48	PJG
Aroclor-1262 [1]	ND	9700	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:48	PJG
Aroclor-1268 [1]	ND	9700	mg/Kg	50000		SW-846 8082A	8/10/11	8/18/11 11:48	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/18/11 11:48
Decachlorobiphenyl [2]	*	30-150	S-01	8/18/11 11:48
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/18/11 11:48
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/18/11 11:48

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-009 | Sampled: 8/10/2011 11:05

Sample ID: 11H0428-09

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:22	PJG
Aroclor-1221 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:22	PJG
Aroclor-1232 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:22	PJG
Aroclor-1242 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:22	PJG
Aroclor-1248 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:22	PJG
Aroclor-1254 [1]	13	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:22	PJG
Aroclor-1260 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:22	PJG
Aroclor-1262 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:22	PJG
Aroclor-1268 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:22	PJG

Surrogates	% Recovery		Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.2		30-150		8/18/11 14:22
Decachlorobiphenyl [2]	101		30-150		8/18/11 14:22
Tetrachloro-m-xylene [1]	**196**	*	30-150	S-03	8/18/11 14:22
Tetrachloro-m-xylene [2]	**280**	*	30-150	S-03	8/18/11 14:22

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Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-010
Sampled: 8/10/2011 11:10

Sample ID: 11H0428-10

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:36	PJG
Aroclor-1221 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:36	PJG
Aroclor-1232 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:36	PJG
Aroclor-1242 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:36	PJG
Aroclor-1248 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:36	PJG
Aroclor-1254 [2]	2.6	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:36	PJG
Aroclor-1260 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:36	PJG
Aroclor-1262 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:36	PJG
Aroclor-1268 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 14:36	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		8/18/11 14:36
Decachlorobiphenyl [2]	109	30-150		8/18/11 14:36
Tetrachloro-m-xylene [1]	107	30-150		8/18/11 14:36
Tetrachloro-m-xylene [2]	127	30-150		8/18/11 14:36

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-011 | Sampled: 8/10/2011 11:28

Sample ID: 11H0428-11

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1221 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1232 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1242 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1248 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1254 [1]	24	3.6	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1260 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1262 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1268 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 12:30	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	103	30-150		8/18/11 12:30
Decachlorobiphenyl [2]	109	30-150		8/18/11 12:30
Tetrachloro-m-xylene [1]	103	30-150		8/18/11 12:30
Tetrachloro-m-xylene [2]	130	30-150		8/18/11 12:30

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Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-012
Sampled: 8/10/2011 11:31

Sample ID: 11H0428-12

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1221 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1232 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1242 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1248 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1254 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1260 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1262 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:30	PJG
Aroclor-1268 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:30	PJG

Surrogates	% Recovery		Recovery Limits	Flag	
Decachlorobiphenyl [1]	113		30-150		8/18/11 12:30
Decachlorobiphenyl [2]	104		30-150		8/18/11 12:30
Tetrachloro-m-xylene [1]	**358**	*	30-150	S-03	8/18/11 12:30
Tetrachloro-m-xylene [2]	**459**	*	30-150	S-03	8/18/11 12:30

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-013 | Sampled: 8/10/2011 11:37

Sample ID: 11H0428-13

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	18	mg/Kg	100		SW-846 8082A	8/10/11	8/18/11 12:44	PJG
Aroclor-1221 [1]	ND	18	mg/Kg	100		SW-846 8082A	8/10/11	8/18/11 12:44	PJG
Aroclor-1232 [1]	ND	18	mg/Kg	100		SW-846 8082A	8/10/11	8/18/11 12:44	PJG
Aroclor-1242 [1]	ND	18	mg/Kg	100		SW-846 8082A	8/10/11	8/18/11 12:44	PJG
Aroclor-1248 [1]	ND	18	mg/Kg	100		SW-846 8082A	8/10/11	8/18/11 12:44	PJG
Aroclor-1254 [1]	170	18	mg/Kg	100		SW-846 8082A	8/10/11	8/18/11 12:44	PJG
Aroclor-1260 [1]	ND	18	mg/Kg	100		SW-846 8082A	8/10/11	8/18/11 12:44	PJG
Aroclor-1262 [1]	ND	18	mg/Kg	100		SW-846 8082A	8/10/11	8/18/11 12:44	PJG
Aroclor-1268 [1]	ND	18	mg/Kg	100		SW-846 8082A	8/10/11	8/18/11 12:44	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/18/11 12:44
Decachlorobiphenyl [2]	*	30-150	S-01	8/18/11 12:44
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/18/11 12:44
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/18/11 12:44

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-014 | Sampled: 8/10/2011 12:15

Sample ID: 11H0428-14

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:43	PJG
Aroclor-1221 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:43	PJG
Aroclor-1232 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:43	PJG
Aroclor-1242 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:43	PJG
Aroclor-1248 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:43	PJG
Aroclor-1254 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:43	PJG
Aroclor-1260 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:43	PJG
Aroclor-1262 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:43	PJG
Aroclor-1268 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 12:43	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	117	30-150		8/18/11 12:43
Decachlorobiphenyl [2]	106	30-150		8/18/11 12:43
Tetrachloro-m-xylene [1]	133	30-150		8/18/11 12:43
Tetrachloro-m-xylene [2]	120	30-150		8/18/11 12:43

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-015 | Sampled: 8/10/2011 12:23

Sample ID: 11H0428-15

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:56	PJG
Aroclor-1221 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:56	PJG
Aroclor-1232 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:56	PJG
Aroclor-1242 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:56	PJG
Aroclor-1248 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:56	PJG
Aroclor-1254 [1]	4.5	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:56	PJG
Aroclor-1260 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:56	PJG
Aroclor-1262 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:56	PJG
Aroclor-1268 [1]	ND	1.8	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 12:56	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	128	30-150		8/18/11 12:56
Decachlorobiphenyl [2]	119	30-150		8/18/11 12:56
Tetrachloro-m-xylene [1]	105	30-150		8/18/11 12:56
Tetrachloro-m-xylene [2]	110	30-150		8/18/11 12:56

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-016
Sampled: 8/10/2011 12:35

Sample ID: 11H0428-16

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.9	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 13:09	PJG
Aroclor-1221 [1]	ND	1.9	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 13:09	PJG
Aroclor-1232 [1]	ND	1.9	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 13:09	PJG
Aroclor-1242 [1]	ND	1.9	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 13:09	PJG
Aroclor-1248 [1]	ND	1.9	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 13:09	PJG
Aroclor-1254 [1]	ND	1.9	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 13:09	PJG
Aroclor-1260 [1]	ND	1.9	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 13:09	PJG
Aroclor-1262 [1]	ND	1.9	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 13:09	PJG
Aroclor-1268 [1]	ND	1.9	mg/Kg	10		SW-846 8082A	8/10/11	8/18/11 13:09	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	125	30-150		8/18/11 13:09
Decachlorobiphenyl [2]	119	30-150		8/18/11 13:09
Tetrachloro-m-xylene [1]	106	30-150		8/18/11 13:09
Tetrachloro-m-xylene [2]	133	30-150		8/18/11 13:09

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-017 | Sampled: 8/10/2011 12:49

Sample ID: 11H0428-17

Sample Matrix: Caulk

Sample Flags: DL-03, O-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	34	mg/Kg	200		SW-846 8082A	8/10/11	8/27/11 15:33	JMB
Aroclor-1221 [1]	ND	34	mg/Kg	200		SW-846 8082A	8/10/11	8/27/11 15:33	JMB
Aroclor-1232 [1]	ND	34	mg/Kg	200		SW-846 8082A	8/10/11	8/27/11 15:33	JMB
Aroclor-1242 [1]	ND	34	mg/Kg	200		SW-846 8082A	8/10/11	8/27/11 15:33	JMB
Aroclor-1248 [1]	ND	34	mg/Kg	200		SW-846 8082A	8/10/11	8/27/11 15:33	JMB
Aroclor-1254 [2]	ND	34	mg/Kg	200		SW-846 8082A	8/10/11	8/27/11 15:33	JMB
Aroclor-1260 [1]	ND	34	mg/Kg	200		SW-846 8082A	8/10/11	8/27/11 15:33	JMB
Aroclor-1262 [1]	ND	34	mg/Kg	200		SW-846 8082A	8/10/11	8/27/11 15:33	JMB
Aroclor-1268 [1]	ND	34	mg/Kg	200		SW-846 8082A	8/10/11	8/27/11 15:33	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/27/11 15:33
Decachlorobiphenyl [2]	*	30-150	S-01	8/27/11 15:33
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/27/11 15:33
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/27/11 15:33

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Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-018
Sampled: 8/10/2011 12:55

Sample ID: 11H0428-18

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.94	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 13:22	PJG
Aroclor-1221 [1]	ND	0.94	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 13:22	PJG
Aroclor-1232 [1]	ND	0.94	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 13:22	PJG
Aroclor-1242 [1]	ND	0.94	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 13:22	PJG
Aroclor-1248 [1]	ND	0.94	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 13:22	PJG
Aroclor-1254 [2]	12	0.94	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 13:22	PJG
Aroclor-1260 [1]	ND	0.94	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 13:22	PJG
Aroclor-1262 [1]	ND	0.94	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 13:22	PJG
Aroclor-1268 [1]	ND	0.94	mg/Kg	5		SW-846 8082A	8/10/11	8/18/11 13:22	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	109	30-150		8/18/11 13:22
Decachlorobiphenyl [2]	98.9	30-150		8/18/11 13:22
Tetrachloro-m-xylene [1]	117	30-150		8/18/11 13:22
Tetrachloro-m-xylene [2]	82.3	30-150		8/18/11 13:22

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-019
Sampled: 8/10/2011 13:02

Sample ID: 11H0428-19

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.5	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 13:12	PJG
Aroclor-1221 [1]	ND	3.5	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 13:12	PJG
Aroclor-1232 [1]	ND	3.5	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 13:12	PJG
Aroclor-1242 [1]	ND	3.5	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 13:12	PJG
Aroclor-1248 [1]	ND	3.5	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 13:12	PJG
Aroclor-1254 [2]	63	3.5	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 13:12	PJG
Aroclor-1260 [1]	ND	3.5	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 13:12	PJG
Aroclor-1262 [1]	ND	3.5	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 13:12	PJG
Aroclor-1268 [1]	ND	3.5	mg/Kg	20		SW-846 8082A	8/10/11	8/18/11 13:12	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	62.0	30-150		8/18/11 13:12
Decachlorobiphenyl [2]	64.2	30-150		8/18/11 13:12
Tetrachloro-m-xylene [1]	113	30-150		8/18/11 13:12
Tetrachloro-m-xylene [2]	133	30-150		8/18/11 13:12

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-020 | Sampled: 8/10/2011 13:14

Sample ID: 11H0428-20

Sample Matrix: Caulk

Sample Flags: V-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	8/10/11	8/18/11 13:26	PJG
Aroclor-1221 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	8/10/11	8/18/11 13:26	PJG
Aroclor-1232 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	8/10/11	8/18/11 13:26	PJG
Aroclor-1242 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	8/10/11	8/18/11 13:26	PJG
Aroclor-1248 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	8/10/11	8/18/11 13:26	PJG
Aroclor-1254 [1]	33	9.0	mg/Kg	50		SW-846 8082A	8/10/11	8/18/11 13:26	PJG
Aroclor-1260 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	8/10/11	8/18/11 13:26	PJG
Aroclor-1262 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	8/10/11	8/18/11 13:26	PJG
Aroclor-1268 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	8/10/11	8/18/11 13:26	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/18/11 13:26
Decachlorobiphenyl [2]	*	30-150	S-01	8/18/11 13:26
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/18/11 13:26
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/18/11 13:26

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-021
Sampled: 8/10/2011 13:30

Sample ID: 11H0428-21

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:24	JMB
Aroclor-1221 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:24	JMB
Aroclor-1232 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:24	JMB
Aroclor-1242 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:24	JMB
Aroclor-1248 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:24	JMB
Aroclor-1254 [1]	3.6	0.87	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:24	JMB
Aroclor-1260 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:24	JMB
Aroclor-1262 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:24	JMB
Aroclor-1268 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:24	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	120	30-150		8/14/11 22:24
Decachlorobiphenyl [2]	122	30-150		8/14/11 22:24
Tetrachloro-m-xylene [1]	124	30-150		8/14/11 22:24
Tetrachloro-m-xylene [2]	108	30-150		8/14/11 22:24

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-022 | Sampled: 8/10/2011 13:35

Sample ID: 11H0428-22

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:37	JMB
Aroclor-1221 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:37	JMB
Aroclor-1232 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:37	JMB
Aroclor-1242 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:37	JMB
Aroclor-1248 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:37	JMB
Aroclor-1254 [1]	4.2	0.93	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:37	JMB
Aroclor-1260 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:37	JMB
Aroclor-1262 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:37	JMB
Aroclor-1268 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:37	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	76.0	30-150		8/14/11 22:37
Decachlorobiphenyl [2]	75.7	30-150		8/14/11 22:37
Tetrachloro-m-xylene [1]	121	30-150		8/14/11 22:37
Tetrachloro-m-xylene [2]	115	30-150		8/14/11 22:37

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-023
Sampled: 8/10/2011 13:40

Sample ID: 11H0428-23

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:50	JMB
Aroclor-1221 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:50	JMB
Aroclor-1232 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:50	JMB
Aroclor-1242 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:50	JMB
Aroclor-1248 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:50	JMB
Aroclor-1254 [1]	4.5	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:50	JMB
Aroclor-1260 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:50	JMB
Aroclor-1262 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:50	JMB
Aroclor-1268 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 22:50	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	78.3	30-150		8/14/11 22:50
Decachlorobiphenyl [2]	76.2	30-150		8/14/11 22:50
Tetrachloro-m-xylene [1]	126	30-150		8/14/11 22:50
Tetrachloro-m-xylene [2]	120	30-150		8/14/11 22:50

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-024 | Sampled: 8/10/2011 13:50

Sample ID: 11H0428-24

Sample Matrix: Caulk

Sample Flags: O-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	8/10/11	9/27/11 15:44	PJG
Aroclor-1221 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	8/10/11	9/27/11 15:44	PJG
Aroclor-1232 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	8/10/11	9/27/11 15:44	PJG
Aroclor-1242 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	8/10/11	9/27/11 15:44	PJG
Aroclor-1248 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	8/10/11	9/27/11 15:44	PJG
Aroclor-1254 [2]	22	0.92	mg/Kg	5		SW-846 8082A	8/10/11	9/27/11 15:44	PJG
Aroclor-1260 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	8/10/11	9/27/11 15:44	PJG
Aroclor-1262 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	8/10/11	9/27/11 15:44	PJG
Aroclor-1268 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	8/10/11	9/27/11 15:44	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	72.3	30-150		9/27/11 15:44
Decachlorobiphenyl [2]	78.6	30-150		9/27/11 15:44
Tetrachloro-m-xylene [1]	77.9	30-150		9/27/11 15:44
Tetrachloro-m-xylene [2]	84.4	30-150		9/27/11 15:44

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-025
Sampled: 8/10/2011 13:55

Sample ID: 11H0428-25

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 23:03	JMB
Aroclor-1221 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 23:03	JMB
Aroclor-1232 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 23:03	JMB
Aroclor-1242 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 23:03	JMB
Aroclor-1248 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 23:03	JMB
Aroclor-1254 [2]	11	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 23:03	JMB
Aroclor-1260 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 23:03	JMB
Aroclor-1262 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 23:03	JMB
Aroclor-1268 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/10/11	8/14/11 23:03	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	63.7	30-150		8/14/11 23:03
Decachlorobiphenyl [2]	63.9	30-150		8/14/11 23:03
Tetrachloro-m-xylene [1]	125	30-150		8/14/11 23:03
Tetrachloro-m-xylene [2]	114	30-150		8/14/11 23:03

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-026
Sampled: 8/10/2011 14:00

Sample ID: 11H0428-26

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:16	JMB
Aroclor-1221 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:16	JMB
Aroclor-1232 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:16	JMB
Aroclor-1242 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:16	JMB
Aroclor-1248 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:16	JMB
Aroclor-1254 [2]	25	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:16	JMB
Aroclor-1260 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:16	JMB
Aroclor-1262 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:16	JMB
Aroclor-1268 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:16	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	128	30-150		8/14/11 23:16
Decachlorobiphenyl [2]	121	30-150		8/14/11 23:16
Tetrachloro-m-xylene [1]	125	30-150		8/14/11 23:16
Tetrachloro-m-xylene [2]	119	30-150		8/14/11 23:16

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-027 | Sampled: 8/10/2011 14:05

Sample ID: 11H0428-27

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:29	JMB
Aroclor-1221 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:29	JMB
Aroclor-1232 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:29	JMB
Aroclor-1242 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:29	JMB
Aroclor-1248 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:29	JMB
Aroclor-1254 [2]	17	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:29	JMB
Aroclor-1260 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:29	JMB
Aroclor-1262 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:29	JMB
Aroclor-1268 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:29	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	82.2	30-150		8/14/11 23:29
Decachlorobiphenyl [2]	91.2	30-150		8/14/11 23:29
Tetrachloro-m-xylene [1]	119	30-150		8/14/11 23:29
Tetrachloro-m-xylene [2]	112	30-150		8/14/11 23:29

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-028
Sampled: 8/10/2011 14:07

Sample ID: 11H0428-28

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:42	JMB
Aroclor-1221 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:42	JMB
Aroclor-1232 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:42	JMB
Aroclor-1242 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:42	JMB
Aroclor-1248 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:42	JMB
Aroclor-1254 [2]	34	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:42	JMB
Aroclor-1260 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:42	JMB
Aroclor-1262 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:42	JMB
Aroclor-1268 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:42	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	138	30-150		8/14/11 23:42
Decachlorobiphenyl [2]	135	30-150		8/14/11 23:42
Tetrachloro-m-xylene [1]	123	30-150		8/14/11 23:42
Tetrachloro-m-xylene [2]	115	30-150		8/14/11 23:42

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-029 | Sampled: 8/10/2011 14:10

Sample ID: 11H0428-29

Sample Matrix: Caulk

Sample Flags: DL-03, O-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 15:59	JMB
Aroclor-1221 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 15:59	JMB
Aroclor-1232 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 15:59	JMB
Aroclor-1242 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 15:59	JMB
Aroclor-1248 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 15:59	JMB
Aroclor-1254 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 15:59	JMB
Aroclor-1260 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 15:59	JMB
Aroclor-1262 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 15:59	JMB
Aroclor-1268 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 15:59	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/27/11 15:59
Decachlorobiphenyl [2]	*	30-150	S-01	8/27/11 15:59
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/27/11 15:59
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/27/11 15:59

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Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-030
Sampled: 8/10/2011 14:20

Sample ID: 11H0428-30

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:55	JMB
Aroclor-1221 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:55	JMB
Aroclor-1232 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:55	JMB
Aroclor-1242 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:55	JMB
Aroclor-1248 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:55	JMB
Aroclor-1254 [2]	16	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:55	JMB
Aroclor-1260 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:55	JMB
Aroclor-1262 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:55	JMB
Aroclor-1268 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	8/10/11	8/14/11 23:55	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	118	30-150		8/14/11 23:55
Decachlorobiphenyl [2]	114	30-150		8/14/11 23:55
Tetrachloro-m-xylene [1]	121	30-150		8/14/11 23:55
Tetrachloro-m-xylene [2]	119	30-150		8/14/11 23:55

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-031 | Sampled: 8/10/2011 14:25

Sample ID: 11H0428-31

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:08	JMB
Aroclor-1221 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:08	JMB
Aroclor-1232 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:08	JMB
Aroclor-1242 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:08	JMB
Aroclor-1248 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:08	JMB
Aroclor-1254 [1]	8.3	0.95	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:08	JMB
Aroclor-1260 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:08	JMB
Aroclor-1262 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:08	JMB
Aroclor-1268 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:08	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	117	30-150		8/15/11 0:08
Decachlorobiphenyl [2]	117	30-150		8/15/11 0:08
Tetrachloro-m-xylene [1]	139	30-150		8/15/11 0:08
Tetrachloro-m-xylene [2]	93.7	30-150		8/15/11 0:08

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-032 | Sampled: 8/10/2011 14:40

Sample ID: 11H0428-32

Sample Matrix: Caulk

Sample Flags: DL-03, O-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:12	JMB
Aroclor-1221 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:12	JMB
Aroclor-1232 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:12	JMB
Aroclor-1242 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:12	JMB
Aroclor-1248 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:12	JMB
Aroclor-1254 [2]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:12	JMB
Aroclor-1260 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:12	JMB
Aroclor-1262 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:12	JMB
Aroclor-1268 [1]	ND	190	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:12	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/27/11 16:12
Decachlorobiphenyl [2]	*	30-150	S-01	8/27/11 16:12
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/27/11 16:12
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/27/11 16:12

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-033 | Sampled: 8/10/2011 14:45

Sample ID: 11H0428-33

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:21	JMB
Aroclor-1221 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:21	JMB
Aroclor-1232 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:21	JMB
Aroclor-1242 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:21	JMB
Aroclor-1248 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:21	JMB
Aroclor-1254 [2]	9.0	0.98	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:21	JMB
Aroclor-1260 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:21	JMB
Aroclor-1262 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:21	JMB
Aroclor-1268 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 0:21	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	110	30-150		8/15/11 0:21
Decachlorobiphenyl [2]	112	30-150		8/15/11 0:21
Tetrachloro-m-xylene [1]	111	30-150		8/15/11 0:21
Tetrachloro-m-xylene [2]	95.9	30-150		8/15/11 0:21

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Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-034 | Sampled: 8/10/2011 14:55

Sample ID: 11H0428-34

Sample Matrix: Caulk

Sample Flags: DL-03, O-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	200	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:25	JMB
Aroclor-1221 [1]	ND	200	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:25	JMB
Aroclor-1232 [1]	ND	200	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:25	JMB
Aroclor-1242 [1]	ND	200	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:25	JMB
Aroclor-1248 [1]	ND	200	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:25	JMB
Aroclor-1254 [2]	ND	200	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:25	JMB
Aroclor-1260 [1]	ND	200	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:25	JMB
Aroclor-1262 [1]	ND	200	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:25	JMB
Aroclor-1268 [1]	ND	200	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:25	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/27/11 16:25
Decachlorobiphenyl [2]	*	30-150	S-01	8/27/11 16:25
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/27/11 16:25
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/27/11 16:25

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-035
Sampled: 8/10/2011 14:58

Sample ID: 11H0428-35

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/15/11 0:34	JMB
Aroclor-1221 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/15/11 0:34	JMB
Aroclor-1232 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/15/11 0:34	JMB
Aroclor-1242 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/15/11 0:34	JMB
Aroclor-1248 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/15/11 0:34	JMB
Aroclor-1254 [2]	31	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/15/11 0:34	JMB
Aroclor-1260 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/15/11 0:34	JMB
Aroclor-1262 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/15/11 0:34	JMB
Aroclor-1268 [1]	ND	1.7	mg/Kg	10		SW-846 8082A	8/10/11	8/15/11 0:34	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	133	30-150		8/15/11 0:34
Decachlorobiphenyl [2]	138	30-150		8/15/11 0:34
Tetrachloro-m-xylene [1]	112	30-150		8/15/11 0:34
Tetrachloro-m-xylene [2]	105	30-150		8/15/11 0:34

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-036 | Sampled: 8/10/2011 15:02

Sample ID: 11H0428-36

Sample Matrix: Caulk

Sample Flags: DL-03, O-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:38	JMB
Aroclor-1221 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:38	JMB
Aroclor-1232 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:38	JMB
Aroclor-1242 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:38	JMB
Aroclor-1248 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:38	JMB
Aroclor-1254 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:38	JMB
Aroclor-1260 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:38	JMB
Aroclor-1262 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:38	JMB
Aroclor-1268 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:38	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/27/11 16:38
Decachlorobiphenyl [2]	*	30-150	S-01	8/27/11 16:38
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/27/11 16:38
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/27/11 16:38

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-037 | Sampled: 8/10/2011 15:05

Sample ID: 11H0428-37

Sample Matrix: Caulk

Sample Flags: DL-03, O-27

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:51	JMB
Aroclor-1221 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:51	JMB
Aroclor-1232 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:51	JMB
Aroclor-1242 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:51	JMB
Aroclor-1248 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:51	JMB
Aroclor-1254 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:51	JMB
Aroclor-1260 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:51	JMB
Aroclor-1262 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:51	JMB
Aroclor-1268 [1]	ND	180	mg/Kg	1000		SW-846 8082A	8/10/11	8/27/11 16:51	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/27/11 16:51
Decachlorobiphenyl [2]	*	30-150	S-01	8/27/11 16:51
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/27/11 16:51
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/27/11 16:51

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-038
Sampled: 8/10/2011 15:13

Sample ID: 11H0428-38

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/10/11	8/15/11 0:47	JMB
Aroclor-1221 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/10/11	8/15/11 0:47	JMB
Aroclor-1232 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/10/11	8/15/11 0:47	JMB
Aroclor-1242 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/10/11	8/15/11 0:47	JMB
Aroclor-1248 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/10/11	8/15/11 0:47	JMB
Aroclor-1254 [2]	78	10	mg/Kg	50		SW-846 8082A	8/10/11	8/15/11 0:47	JMB
Aroclor-1260 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/10/11	8/15/11 0:47	JMB
Aroclor-1262 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/10/11	8/15/11 0:47	JMB
Aroclor-1268 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/10/11	8/15/11 0:47	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/15/11 0:47
Decachlorobiphenyl [2]	*	30-150	S-01	8/15/11 0:47
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/15/11 0:47
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/15/11 0:47

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-039
Sampled: 8/10/2011 15:17

Sample ID: 11H0428-39

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:00	JMB
Aroclor-1221 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:00	JMB
Aroclor-1232 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:00	JMB
Aroclor-1242 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:00	JMB
Aroclor-1248 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:00	JMB
Aroclor-1254 [2]	7.7	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:00	JMB
Aroclor-1260 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:00	JMB
Aroclor-1262 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:00	JMB
Aroclor-1268 [1]	ND	1.0	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:00	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	70.5	30-150		8/15/11 1:00
Decachlorobiphenyl [2]	72.6	30-150		8/15/11 1:00
Tetrachloro-m-xylene [1]	102	30-150		8/15/11 1:00
Tetrachloro-m-xylene [2]	104	30-150		8/15/11 1:00

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBKD-040 | Sampled: 8/10/2011 15:17

Sample ID: 11H0428-40

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:13	JMB
Aroclor-1221 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:13	JMB
Aroclor-1232 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:13	JMB
Aroclor-1242 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:13	JMB
Aroclor-1248 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:13	JMB
Aroclor-1254 [2]	9.4	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:13	JMB
Aroclor-1260 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:13	JMB
Aroclor-1262 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:13	JMB
Aroclor-1268 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/10/11	8/15/11 1:13	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	121	30-150		8/15/11 1:13
Decachlorobiphenyl [2]	123	30-150		8/15/11 1:13
Tetrachloro-m-xylene [1]	133	30-150		8/15/11 1:13
Tetrachloro-m-xylene [2]	121	30-150		8/15/11 1:13

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-041
Sampled: 8/10/2011 15:22

Sample ID: 11H0428-41

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 17:52	JMB
Aroclor-1221 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 17:52	JMB
Aroclor-1232 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 17:52	JMB
Aroclor-1242 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 17:52	JMB
Aroclor-1248 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 17:52	JMB
Aroclor-1254 [2]	170	20	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 17:52	JMB
Aroclor-1260 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 17:52	JMB
Aroclor-1262 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 17:52	JMB
Aroclor-1268 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 17:52	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/17/11 17:52
Decachlorobiphenyl [2]	*	30-150	S-01	8/17/11 17:52
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/17/11 17:52
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/17/11 17:52

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-042
Sampled: 8/10/2011 15:30

Sample ID: 11H0428-42

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:05	JMB
Aroclor-1221 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:05	JMB
Aroclor-1232 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:05	JMB
Aroclor-1242 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:05	JMB
Aroclor-1248 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:05	JMB
Aroclor-1254 [2]	52	19	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:05	JMB
Aroclor-1260 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:05	JMB
Aroclor-1262 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:05	JMB
Aroclor-1268 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:05	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/17/11 18:05
Decachlorobiphenyl [2]	*	30-150	S-01	8/17/11 18:05
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/17/11 18:05
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/17/11 18:05

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-043
Sampled: 8/10/2011 15:32

Sample ID: 11H0428-43

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:18	JMB
Aroclor-1221 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:18	JMB
Aroclor-1232 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:18	JMB
Aroclor-1242 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:18	JMB
Aroclor-1248 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:18	JMB
Aroclor-1254 [2]	0.90	0.89	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:18	JMB
Aroclor-1260 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:18	JMB
Aroclor-1262 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:18	JMB
Aroclor-1268 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:18	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	109	30-150		8/17/11 18:18
Decachlorobiphenyl [2]	111	30-150		8/17/11 18:18
Tetrachloro-m-xylene [1]	86.1	30-150		8/17/11 18:18
Tetrachloro-m-xylene [2]	92.5	30-150		8/17/11 18:18

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-044
Sampled: 8/10/2011 15:40

Sample ID: 11H0428-44

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	17	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:31	JMB
Aroclor-1221 [1]	ND	17	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:31	JMB
Aroclor-1232 [1]	ND	17	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:31	JMB
Aroclor-1242 [1]	ND	17	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:31	JMB
Aroclor-1248 [1]	ND	17	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:31	JMB
Aroclor-1254 [1]	49	17	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:31	JMB
Aroclor-1260 [1]	ND	17	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:31	JMB
Aroclor-1262 [1]	ND	17	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:31	JMB
Aroclor-1268 [1]	ND	17	mg/Kg	100		SW-846 8082A	8/11/11	8/17/11 18:31	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/17/11 18:31
Decachlorobiphenyl [2]	*	30-150	S-01	8/17/11 18:31
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/17/11 18:31
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/17/11 18:31

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

Project Location: UMASS Amherst, MA
Sample Description:
Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBK-045
Sampled: 8/10/2011 15:45

Sample ID: 11H0428-45

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:44	JMB
Aroclor-1221 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:44	JMB
Aroclor-1232 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:44	JMB
Aroclor-1242 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:44	JMB
Aroclor-1248 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:44	JMB
Aroclor-1254 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:44	JMB
Aroclor-1260 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:44	JMB
Aroclor-1262 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:44	JMB
Aroclor-1268 [1]	ND	0.95	mg/Kg	5		SW-846 8082A	8/11/11	8/17/11 18:44	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	119	30-150		8/17/11 18:44
Decachlorobiphenyl [2]	120	30-150		8/17/11 18:44
Tetrachloro-m-xylene [1]	91.9	30-150		8/17/11 18:44
Tetrachloro-m-xylene [2]	90.4	30-150		8/17/11 18:44

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

Project Location: UMASS Amherst, MA | Sample Description: | Work Order: 11H0428

Date Received: 8/10/2011

Field Sample #: GH-CBKQ-046 | Sampled: 8/10/2011 15:55

Sample ID: 11H0428-46

Sample Matrix: Water

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/L	1		SW-846 8082A	8/10/11	8/12/11 2:59	PJG
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/10/11	8/12/11 2:59	PJG
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/10/11	8/12/11 2:59	PJG
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/10/11	8/12/11 2:59	PJG
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/10/11	8/12/11 2:59	PJG
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/10/11	8/12/11 2:59	PJG
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/10/11	8/12/11 2:59	PJG
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/10/11	8/12/11 2:59	PJG
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/10/11	8/12/11 2:59	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	61.3	30-150		8/12/11 2:59
Decachlorobiphenyl [2]	59.3	30-150		8/12/11 2:59
Tetrachloro-m-xylene [1]	101	30-150		8/12/11 2:59
Tetrachloro-m-xylene [2]	99.5	30-150		8/12/11 2:59

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 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11H0428-01 [GH-CBK-001]	B035272	0.559	10.0	08/10/11
11H0428-02 [GH-CBK-002]	B035272	0.565	10.0	08/10/11
11H0428-03 [GH-CBK-003]	B035272	0.555	10.0	08/10/11
11H0428-04 [GH-CBK-004]	B035272	0.530	10.0	08/10/11
11H0428-05 [GH-CBK-005]	B035272	0.532	10.0	08/10/11
11H0428-06 [GH-CBK-006]	B035272	0.519	10.0	08/10/11
11H0428-07 [GH-CBK-007]	B035272	0.521	10.0	08/10/11
11H0428-08 [GH-CBKD-008]	B035272	0.514	10.0	08/10/11
11H0428-09 [GH-CBK-009]	B035272	0.522	10.0	08/10/11
11H0428-10 [GH-CBK-010]	B035272	0.513	10.0	08/10/11
11H0428-11 [GH-CBK-011]	B035272	0.549	10.0	08/10/11
11H0428-12 [GH-CBK-012]	B035272	0.501	10.0	08/10/11
11H0428-13 [GH-CBK-013]	B035272	0.545	10.0	08/10/11
11H0428-14 [GH-CBK-014]	B035272	0.515	10.0	08/10/11
11H0428-15 [GH-CBK-015]	B035272	0.546	10.0	08/10/11
11H0428-16 [GH-CBK-016]	B035272	0.528	10.0	08/10/11
11H0428-17 [GH-CBK-017]	B035272	0.584	10.0	08/10/11
11H0428-18 [GH-CBK-018]	B035272	0.530	10.0	08/10/11
11H0428-19 [GH-CBK-019]	B035272	0.565	10.0	08/10/11
11H0428-20 [GH-CBK-020]	B035272	0.555	10.0	08/10/11

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11H0428-21 [GH-CBK-021]	B035273	0.578	10.0	08/10/11
11H0428-22 [GH-CBK-022]	B035273	0.538	10.0	08/10/11
11H0428-23 [GH-CBK-023]	B035273	0.501	10.0	08/10/11
11H0428-24 [GH-CBK-024]	B035273	0.545	10.0	08/10/11
11H0428-25 [GH-CBK-025]	B035273	0.521	10.0	08/10/11
11H0428-26 [GH-CBK-026]	B035273	0.584	10.0	08/10/11
11H0428-27 [GH-CBK-027]	B035273	0.595	10.0	08/10/11
11H0428-28 [GH-CBK-028]	B035273	0.503	10.0	08/10/11
11H0428-29 [GH-CBK-029]	B035273	0.524	10.0	08/10/11
11H0428-30 [GH-CBK-030]	B035273	0.502	10.0	08/10/11
11H0428-31 [GH-CBK-031]	B035273	0.528	10.0	08/10/11
11H0428-32 [GH-CBK-032]	B035273	0.534	10.0	08/10/11
11H0428-33 [GH-CBK-033]	B035273	0.511	10.0	08/10/11
11H0428-34 [GH-CBK-034]	B035273	0.507	10.0	08/10/11
11H0428-35 [GH-CBK-035]	B035273	0.592	10.0	08/10/11
11H0428-36 [GH-CBK-036]	B035273	0.571	10.0	08/10/11
11H0428-37 [GH-CBK-037]	B035273	0.555	10.0	08/10/11
11H0428-38 [GH-CBK-038]	B035273	0.502	10.0	08/10/11
11H0428-39 [GH-CBK-039]	B035273	0.501	10.0	08/10/11
11H0428-40 [GH-CBKD-040]	B035273	0.513	10.0	08/10/11

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11H0428-41 [GH-CBK-041]	B035347	0.506	10.0	08/11/11
11H0428-42 [GH-CBK-042]	B035347	0.531	10.0	08/11/11
11H0428-43 [GH-CBK-043]	B035347	0.560	10.0	08/11/11
11H0428-44 [GH-CBK-044]	B035347	0.587	10.0	08/11/11
11H0428-45 [GH-CBK-045]	B035347	0.528	10.0	08/11/11

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

Sample Extraction Data

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11H0428-46 [GH-CBKQ-046]	B035244	1000	10.0	08/10/11

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 B035244 - SW-846 3510C										
Blank (B035244-BLK1)				Prepared: 08/10/11 Analyzed: 08/12/11						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*1.61*		µg/L	2.00		80.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.54*		µg/L	2.00		76.8	30-150			
Surrogate: Tetrachloro-m-xylene	*1.73*		µg/L	2.00		86.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.72*		µg/L	2.00		86.1	30-150			
LCS (B035244-BS1)				Prepared: 08/10/11 Analyzed: 08/12/11						
Aroclor-1016	0.41	0.20	µg/L	0.500		81.9	40-140			
Aroclor-1016 [2C]	0.47	0.20	µg/L	0.500		94.3	40-140			
Aroclor-1260	0.44	0.20	µg/L	0.500		88.1	40-140			
Aroclor-1260 [2C]	0.44	0.20	µg/L	0.500		88.1	40-140			
Surrogate: Decachlorobiphenyl	*1.37*		µg/L	2.00		68.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.32*		µg/L	2.00		66.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.58*		µg/L	2.00		79.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.57*		µg/L	2.00		78.7	30-150			
LCS Dup (B035244-BSD1)				Prepared: 08/10/11 Analyzed: 08/12/11						
Aroclor-1016	0.43	0.20	µg/L	0.500		85.7	40-140	4.46	20	
Aroclor-1016 [2C]	0.48	0.20	µg/L	0.500		95.1	40-140	0.815	20	
Aroclor-1260	0.44	0.20	µg/L	0.500		88.7	40-140	0.746	20	
Aroclor-1260 [2C]	0.45	0.20	µg/L	0.500		90.3	40-140	2.39	20	
Surrogate: Decachlorobiphenyl	*1.50*		µg/L	2.00		74.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.42*		µg/L	2.00		70.9	30-150			
Surrogate: Tetrachloro-m-xylene	*1.66*		µg/L	2.00		83.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.65*		µg/L	2.00		82.5	30-150			

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

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B035272 - SW-846 3540C										
Blank (B035272-BLK1)				Prepared: 08/10/11 Analyzed: 08/15/11						
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	*4.14*		mg/Kg	4.00		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.23*		mg/Kg	4.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	*4.27*		mg/Kg	4.00		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*4.39*		mg/Kg	4.00		110	30-150			
LCS (B035272-BS1)				Prepared: 08/10/11 Analyzed: 08/15/11						
Aroclor-1016	3.5	0.20	mg/Kg	4.00		87.5	40-140			
Aroclor-1016 [2C]	4.0	0.20	mg/Kg	4.00		101	40-140			
Aroclor-1260	3.3	0.20	mg/Kg	4.00		81.5	40-140			
Aroclor-1260 [2C]	3.6	0.20	mg/Kg	4.00		89.0	40-140			
Surrogate: Decachlorobiphenyl	*3.81*		mg/Kg	4.00		95.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.84*		mg/Kg	4.00		96.1	30-150			
Surrogate: Tetrachloro-m-xylene	*3.46*		mg/Kg	4.00		86.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.52*		mg/Kg	4.00		88.0	30-150			
LCS Dup (B035272-BSD1)				Prepared: 08/10/11 Analyzed: 08/15/11						
Aroclor-1016	4.0	0.20	mg/Kg	4.00		101	40-140	14.5	30	
Aroclor-1016 [2C]	4.4	0.20	mg/Kg	4.00		110	40-140	8.58	30	
Aroclor-1260	3.7	0.20	mg/Kg	4.00		92.1	40-140	12.2	30	
Aroclor-1260 [2C]	4.0	0.20	mg/Kg	4.00		101	40-140	12.3	30	
Surrogate: Decachlorobiphenyl	*4.30*		mg/Kg	4.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.33*		mg/Kg	4.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	*4.29*		mg/Kg	4.00		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*4.33*		mg/Kg	4.00		108	30-150			

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

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B035273 - SW-846 3540C										
Blank (B035273-BLK1)				Prepared: 08/10/11 Analyzed: 08/14/11						
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	*3.79*		mg/Kg	4.00		94.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.81*		mg/Kg	4.00		95.3	30-150			
Surrogate: Tetrachloro-m-xylene	*4.32*		mg/Kg	4.00		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*4.40*		mg/Kg	4.00		110	30-150			
LCS (B035273-BS1)				Prepared: 08/10/11 Analyzed: 08/14/11						
Aroclor-1016	4.4	0.20	mg/Kg	4.00		110	40-140			
Aroclor-1016 [2C]	5.1	0.20	mg/Kg	4.00		128	40-140			
Aroclor-1260	3.7	0.20	mg/Kg	4.00		91.3	40-140			
Aroclor-1260 [2C]	3.9	0.20	mg/Kg	4.00		98.1	40-140			
Surrogate: Decachlorobiphenyl	*3.88*		mg/Kg	4.00		97.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.92*		mg/Kg	4.00		97.9	30-150			
Surrogate: Tetrachloro-m-xylene	*4.53*		mg/Kg	4.00		113	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*4.58*		mg/Kg	4.00		114	30-150			
LCS Dup (B035273-BSD1)				Prepared: 08/10/11 Analyzed: 08/14/11						
Aroclor-1016	4.1	0.20	mg/Kg	4.00		103	40-140	6.53	30	
Aroclor-1016 [2C]	4.8	0.20	mg/Kg	4.00		119	40-140	6.85	30	
Aroclor-1260	3.6	0.20	mg/Kg	4.00		90.2	40-140	1.14	30	
Aroclor-1260 [2C]	3.8	0.20	mg/Kg	4.00		94.6	40-140	3.65	30	
Surrogate: Decachlorobiphenyl	*3.90*		mg/Kg	4.00		97.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.95*		mg/Kg	4.00		98.7	30-150			
Surrogate: Tetrachloro-m-xylene	*4.29*		mg/Kg	4.00		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*4.35*		mg/Kg	4.00		109	30-150			

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

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B035347 - SW-846 3540C										
Blank (B035347-BLK1)				Prepared: 08/11/11 Analyzed: 08/17/11						
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	*3.75*		mg/Kg	4.00		93.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.84*		mg/Kg	4.00		96.1	30-150			
Surrogate: Tetrachloro-m-xylene	*3.85*		mg/Kg	4.00		96.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.94*		mg/Kg	4.00		98.5	30-150			
LCS (B035347-BS1)				Prepared: 08/11/11 Analyzed: 08/17/11						
Aroclor-1016	3.7	0.20	mg/Kg	4.00		93.0	40-140			
Aroclor-1016 [2C]	4.2	0.20	mg/Kg	4.00		104	40-140			
Aroclor-1260	3.8	0.20	mg/Kg	4.00		94.6	40-140			
Aroclor-1260 [2C]	4.4	0.20	mg/Kg	4.00		109	40-140			
Surrogate: Decachlorobiphenyl	*3.88*		mg/Kg	4.00		96.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.93*		mg/Kg	4.00		98.2	30-150			
Surrogate: Tetrachloro-m-xylene	*3.77*		mg/Kg	4.00		94.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.88*		mg/Kg	4.00		97.1	30-150			
LCS Dup (B035347-BSD1)				Prepared: 08/11/11 Analyzed: 08/17/11						
Aroclor-1016	3.8	0.20	mg/Kg	4.00		93.8	40-140	0.854	30	
Aroclor-1016 [2C]	4.2	0.20	mg/Kg	4.00		105	40-140	0.792	30	
Aroclor-1260	3.8	0.20	mg/Kg	4.00		94.1	40-140	0.581	30	
Aroclor-1260 [2C]	4.3	0.20	mg/Kg	4.00		108	40-140	1.39	30	
Surrogate: Decachlorobiphenyl	*3.79*		mg/Kg	4.00		94.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.86*		mg/Kg	4.00		96.4	30-150			
Surrogate: Tetrachloro-m-xylene	*3.80*		mg/Kg	4.00		95.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.90*		mg/Kg	4.00		97.6	30-150			

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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.
DL-03	Elevated detection limit due to matrix.
O-27	Con-Test Analytical laboratory's enhanced Florisil clean-up was performed on this 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.
S-03	Surrogate recovery outside of control limits due to suspected sample matrix interference.
V-27	For the caulking sample, opening calibration verification was within control criteria. Closing calibration verification was outside of criteria and biased on the low side. Matrix interference is suspected, reported results are estimated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,RI,NC,ME
Aroclor-1016 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1221	CT,NH,NY,RI,NC,ME
Aroclor-1221 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1232	CT,NH,NY,RI,NC,ME
Aroclor-1232 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1242	CT,NH,NY,RI,NC,ME
Aroclor-1242 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1248	CT,NH,NY,RI,NC,ME
Aroclor-1248 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1254	CT,NH,NY,RI,NC,ME
Aroclor-1254 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1260	CT,NH,NY,RI,NC,ME
Aroclor-1260 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
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

CHAIN OF CUSTODY RECORD

con-test® ANALYTICAL LABORATORY
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Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Page 1 of 5

11H0428

Company Name: Woodard & Curran
Address: 35 NE Bus. Ctr Suite 180
Andover MA 01810
Attention: George Franklin
Project Location: UMass Amherst
Sampled By: George Franklin

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

Telephone: 978 557 8150
Project # 224824
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: gfranklin@woodardcurran.com
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	PCBs (3540C/8082)
-1	GH-CBK-001	8/10/11	1000		X	O	U	X
-2	GH-CBK-002	8/10/11	1025		X	O	U	X
-3	GH-CBK-003	8/10/11	1030		X	O	U	X
-4	GH-CBK-004	8/10/11	1040		X	O	U	X
-5	GH-CBK-005	8/10/11	1050		X	O	U	X
-6	GH-CBK-006	8/10/11	1055		X	O	U	X
-7	GH-CBK-007	8/10/11	1100		X	O	U	X
-8	GH-~~CBK~~ CBKD-008	8/10/11	~~1105~~ 1110		X	O	U	X
-9	GH-CBK-009	8/10/11	1105		X	O	U	X
-10	GH-CBK-010	8/10/11	1110		X	O	U	X

ANALYSIS REQUESTED

# 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 Oil

Comments: PCBs via USEPA 8082 w/ Soxhlet Extraction (3540C)
R.L. 5 ug/kg
(X) 5 day per George Franklin MEC 8/11/11

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: 8/10/11 1620
Received by: (signature)	Date/Time: 1620 8-10-11
Relinquished by: (signature)	Date/Time: 1930 8-10-11
Received by: (signature)	Date/Time: 8/10 1930

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 # _____

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

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www.contestlabs.com

CHAIN OF CUSTODY RECORD

11H0428

39 Spruce Street
East longmeadow, MA 01028

Company Name: Woodard & Curran
Address: 35 Nee Bus. Cte Suite 180
Andover MA 01810
Attention: George Franklin
Project Location: Amherst MA
Sampled By: George Franklin

Telephone: 978-557-8150
Project # 224824
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: gfranklin@woodardcurran.com
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	PCBs (Soxhlet)													# of Containers	** Preservation	***Container Code
-11	GH-CBK-011	8/10/11	1128		X	O	U	X													1	I	A
-12	GH-CBK-012	8/10/11	1131		X	O	U	X															
-13	GH-CBK-013	8/10/11	1137		X	O	U	X															
-14	GH-CBK-014	8/10/11	1215		X	O	U	X															
-15	GH-CBK-015	8/10/11	1223		X	O	U	X															
-16	GH-CBK-016	8/10/11	1235		X	O	U	X															
-17	GH-CBK-017	8/10/11	1249		X	O	U	X															
-18	GH-CBK-018	8/10/11	1255		X	O	U	X															
-19	GH-CBK-019	8/10/11	1302		X	O	U	X															
-20	GH-CBK-020	8/10/11	1314		X	O	U	X															

Comments: PCBs via USEPA 8082 w/ Soxhlet Extraction (3540C)

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
○ 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 CAVLE

Relinquished by: (signature)	Date/Time: 8/10/11 1620	
Received by: (signature)	Date/Time: 1620 8-10-11	
Relinquished by: (signature)	Date/Time: 1830 8-10-11	
Received by: (signature)	Date/Time: 8/10 1930	

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 72
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

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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

11H0428

Company Name: Woodard & Curran
Address: 35 NE Bus. Ctr Suite 180
Amherst MA 01002
Attention: George Franklin
Project Location: Amherst Mass
Sampled By: George Franklin

Telephone: 978 557 8150
Project # 224824
Client PO#

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

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

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	PCBs (35 soc/ug/kg)
-21	GH-CBK-021	8/10/11	1330		X	O	U	X
-22	GH-CBK-022	8/10/11	1335		X	O	U	X
-23	GH-CBK-023	8/10/11	1340		X	O	U	X
-24	GH-CBK-024	8/10/11	1350		X	O	U	X
-25	GH-CBK-025	8/10/11	1355		X	O	U	X
-26	GH-CBK-026	8/10/11	1400		X	O	U	X
-27	GH-CBK-027	8/10/11	1405		X	O	U	X
-28	GH-CBK-028	8/10/11	1407		X	O	U	X
-29	GH-CBK-029	8/10/11	1410		X	O	U	X
-30	GH-CBK-030	8/10/11	1420		X	O	U	X

| | | |

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

1110428

Company Name: Howard Cooper
Address: 35 Pk Bus Ctr Suite 180
Amherst Madrid
Attention: George Franklin
Project Location: Amherst MA
Sampled By: George Franklin

Telephone: 978 557 8150
Project # 224 824
Client PO# 2

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

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

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	PCBs (Soxhlet/8082)											
-31	GH-CBK-031	8/10/11	1425		X	O	U	X											
-32	GH-CBK-032	8/10/11	1440		X	O	U	X											
-33	GH-CBK-033	8/10/11	1445		X	O	U	X											
-34	GH-CBK-034	8/10/11	1455		X	O	U	X											
-35	GH-CBK-035	8/10/11	1458		X	O	U	X											
-36	GH-CBK-036	8/10/11	1502		X	O	U	X											
-37	GH-CBK-037	8/10/11	1505		X	O	U	X											
-38	GH-CBK-038	8/10/11	1513		X	O	U	X											
-39	GH-CBK-039	8/10/11	1517		X	O	U	X											
-40	GH-CBKD-040	8/10/11	1517		X	O	U	X											

ANALYSIS REQUESTED

# of Containers: 1
** Preservation: H
***Container Code: A

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 Cave

Comments: PCBs via USEPA 8082 w/ Soxhlet Extraction (3540C)

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: 8/10/11 1620
Received by: (signature)	Date/Time: 1620 8-10-11
Relinquished by: (signature)	Date/Time: 1930 8-10-11
Received by: (signature)	Date/Time: 8/10 1930

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 # _____

NELAC & AIHA Certified
WBE/DBE Certified

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

1170428

Company Name: Woodard + Curran
Address: 35 New England Bus. Ctr
Andover, MA 01810
Attention: George Franklin
Project Location: Amherst, MA
Sampled By: George Franklin

Telephone: 978-557-8150
Project # 224824
Client PO#

DATA DELIVERY (check all that apply)
O FAX X EMAIL O WEBSITE
Fax #
Email: gfrankl[illegible]
Format: X PDF X 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	PCBs (3540C/8082)	# of Containers / ** Preservation / ***Container Code
-41	GH-CBK-041	8/10/11	1522		X	O	U	X	
-42	GH-CBK-042	8/10/11	1530		X	O	U	X	
-43	GH-CBK-043	8/10/11	1532		X	O	U	X	
-44	GH-CBK-044	8/10/11	1540		X	O	U	X	
-45	GH-CBK-045	8/10/11	1545		X	O	U	X	
-46	GH-CBKQ-046	8/10/11	1555		X	O	U	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 CANLE

Comments: PCBs via USEPA 8082 w/ Soxhlet Extraction (3540C)

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: 8/10/11 1620
Received by: (signature)	Date/Time: 8-10-11 1620
Relinquished by: (signature)	Date/Time: 8-10-11 1930
Received by: (signature)	Date/Time: 8/10 1950

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 Analytical Certification Form Required
O RCP Analysis Certification Form Required
O MA State DW Form Required PWSID # _____

NELAC & AIHA Certified
WBE/DBE Certified

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con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Woodard & Curran RECEIVED BY: SD DATE: 8/10/11

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 ☑ 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 4.1

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	2		8 oz amber/clear jar	45
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	
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 2

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 11H0428
Project Location: UMASS Amherst, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

11H0428-01 thru 11H0428-46

Matrices: Caulk Water

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Position: Laboratory Manager

Printed Name: Daren J. Damboragian Date: 08/19/11

11H0428-01 GH-CBK-001

Analyte	Results		%RPD
Aroclor-1254 [2C]	4.1	4.058318	1.02
Surrogates			
Decachlorobiphenyl	1.86	2.438998	26.9
Tetrachloro-m-xylene	5.06	4.440161	13

11H0428-02 GH-CBK-002

Analyte	Results		%RPD
Aroclor-1254 [2C]	2.2	1.982478	10.4
Surrogates			
Decachlorobiphenyl	2.56	2.572212	0.476
Tetrachloro-m-xylene	2.86	2.964513	3.59

11H0428-03 GH-CBK-003

Analyte	Results		%RPD
Aroclor-1254	4.2	3.934955	6.52
Surrogates			
Decachlorobiphenyl	4.80	4.557478	5.18
Tetrachloro-m-xylene	7.60	6.105586	21.8

11H0428-04 GH-CBK-004

Analyte	Results		%RPD
Aroclor-1254	14	13.49434	3.68

11H0428-05 GH-CBK-005

Analyte	Results		%RPD
Aroclor-1254	120000	118070.5	1.62

11H0428-06 GH-CBK-006

Analyte	Results		%RPD
Aroclor-1254 [2C]	10	9.739981	2.63
Surrogates			
Decachlorobiphenyl	1.97	2.102119	6.49
Tetrachloro-m-xylene	3.26	3.733719	13.5

11H0428-07 GH-CBK-007

Analyte	Results		%RPD
Aroclor-1254 [2C]	140000	137388.7	1.88

11H0428-08 GH-CBKD-008

Analyte	Results		%RPD
Aroclor-1254	110000	111423.2	1.29

11H0428-09 GH-CBK-009

Analyte	Results		%RPD
Aroclor-1254	13	11.9431	8.47
Surrogates			
Tetrachloro-m-xylene	7.50	10.73573	35.5
Decachlorobiphenyl	3.68	3.856992	4.7

11H0428-10 GH-CBK-010

Analyte	Results		%RPD
Aroclor-1254 [2C]	2.6	2.165984	18.2
Surrogates			
Decachlorobiphenyl	3.91	4.255166	8.45
Tetrachloro-m-xylene	4.16	4.940253	17.1

11H0428-11 GH-CBK-011

Analyte	Results		%RPD
Aroclor-1254	24	23.2663	3.1
Surrogates			

Tetrachloro-m-xylene	3.75	4.744626	23.4
Decachlorobiphenyl	3.75	3.982514	6.01

11H0428-12 GH-CBK-012

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	4.53	4.140519	8.98
Tetrachloro-m-xylene	14.3	18.33393	24.7

11H0428-13 GH-CBK-013

Analyte		Results	%RPD
Aroclor-1254	170	151.6257	11.4

11H0428-14 GH-CBK-014

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	4.53	4.119806	9.48
Tetrachloro-m-xylene	5.16	4.664272	10.1

11H0428-15 GH-CBK-015

Analyte		Results	%RPD
Aroclor-1254	4.5	3.891758	14.5
Surrogates			
Tetrachloro-m-xylene	3.85	4.030952	4.59
Decachlorobiphenyl	4.69	4.374908	6.95

11H0428-16 GH-CBK-016

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	4.01	5.032576	22.6
Decachlorobiphenyl	4.73	4.510606	4.75

11H0428-18 GH-CBK-018

Analyte		Results	%RPD
Aroclor-1254 [2C]	12	9.125377	27.2
Surrogates			
Decachlorobiphenyl	4.12	3.730283	9.93
Tetrachloro-m-xylene	4.41	3.107547	34.7

11H0428-19 GH-CBK-019

Analyte		Results	%RPD
Aroclor-1254 [2C]	63	62.08708	1.46
Surrogates			
Tetrachloro-m-xylene	4.01	4.69062	15.6
Decachlorobiphenyl	2.20	2.273628	3.29

11H0428-20 GH-CBK-020

Analyte		Results	%RPD
Aroclor-1254	33	31.45225	4.8

11H0428-21 GH-CBK-021

Analyte		Results	%RPD
Aroclor-1254	3.6	3.455536	4.1
Surrogates			
Decachlorobiphenyl	4.16	4.23737	1.84
Tetrachloro-m-xylene	4.28	3.722059	13.9

11H0428-22 GH-CBK-022

Analyte		Results	%RPD
Aroclor-1254	4.2	3.96487	5.76
Surrogates			
Decachlorobiphenyl	2.82	2.815892	0.146
Tetrachloro-m-xylene	4.51	4.290056	5

11H0428-23 GH-CBK-023

Analyte		Results	%RPD
Aroclor-1254	4.5	4.244611	5.84
Surrogates			
Decachlorobiphenyl	3.12	3.041417	2.55
Tetrachloro-m-xylene	5.01	4.772755	4.85

11H0428-24 GH-CBK-024

Analyte		Results	%RPD
Aroclor-1254 [2C]	22	17.44385	23.1
Surrogates			
Decachlorobiphenyl	2.65	2.884771	8.48
Tetrachloro-m-xylene	2.86	3.09578	7.92

11H0428-25 GH-CBK-025

Analyte		Results	%RPD
Aroclor-1254 [2C]	11	10.81468	1.7
Surrogates			
Decachlorobiphenyl	2.45	2.451727	0.0705
Tetrachloro-m-xylene	4.79	4.370153	9.17

11H0428-26 GH-CBK-026

Analyte		Results	%RPD
Aroclor-1254 [2C]	25	20.03202	22.1
Surrogates			
Decachlorobiphenyl	4.38	4.143493	5.55
Tetrachloro-m-xylene	4.26	4.069692	4.57

11H0428-27 GH-CBK-027

Analyte		Results	%RPD
Aroclor-1254 [2C]	17	16.02622	5.9
Surrogates			
Decachlorobiphenyl	2.76	3.066218	10.5
Tetrachloro-m-xylene	4.01	3.776639	5.99

11H0428-28 GH-CBK-028

Analyte		Results	%RPD
Aroclor-1254 [2C]	34	30.51908	10.8
Surrogates			
Decachlorobiphenyl	5.48	5.368986	2.05
Tetrachloro-m-xylene	4.88	4.567197	6.62

11H0428-30 GH-CBK-030

Analyte		Results	%RPD
Aroclor-1254 [2C]	16	15.36653	4.04
Surrogates			
Tetrachloro-m-xylene	4.82	4.732271	1.84
Decachlorobiphenyl	4.71	4.551793	3.42

11H0428-31 GH-CBK-031

Analyte		Results	%RPD
Aroclor-1254	8.3	9.663921	15.2
Surrogates			
Decachlorobiphenyl	4.42	4.422443	0.0553
Tetrachloro-m-xylene	5.26	3.550474	38.8

11H0428-33 GH-CBK-033

Analyte		Results	%RPD
Aroclor-1254 [2C]	9.0	6.642368	30.1
Surrogates			
Decachlorobiphenyl	4.31	4.377202	1.55
Tetrachloro-m-xylene	4.36	3.75362	14.9

11H0428-35 GH-CBK-035

Analyte	Results		%RPD
Aroclor-1254 [2C]	31	24.41132	23.8
Surrogates			
Decachlorobiphenyl	4.50	4.678378	3.89
Tetrachloro-m-xylene	3.78	3.540203	6.55

11H0428-38 GH-CBK-038

Analyte	Results		%RPD
Aroclor-1254 [2C]	78	72.83068	6.85

11H0428-39 GH-CBK-039

Analyte	Results		%RPD
Aroclor-1254 [2C]	7.7	7.496706	2.68
Surrogates			
Decachlorobiphenyl	2.81	2.897904	3.08
Tetrachloro-m-xylene	4.08	4.145908	1.6

11H0428-40 GH-CBKD-040

Analyte	Results		%RPD
Aroclor-1254 [2C]	9.4	8.87846	5.71
Surrogates			
Tetrachloro-m-xylene	5.20	4.727388	9.52
Decachlorobiphenyl	4.70	4.777388	1.63

11H0428-41 GH-CBK-041

Analyte	Results		%RPD
Aroclor-1254 [2C]	170	145.4644	15.6

11H0428-42 GH-CBK-042

Analyte	Results		%RPD
Aroclor-1254 [2C]	52	44.27307	16.1

11H0428-43 GH-CBK-043

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.90	0.6807143	27.7
Surrogates			
Decachlorobiphenyl	3.89	3.968482	2
Tetrachloro-m-xylene	3.07	3.302768	7.31

11H0428-44 GH-CBK-044

Analyte	Results		%RPD
Aroclor-1254	49	48.50767	1.01

11H0428-45 GH-CBK-045

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	4.49	4.542235	1.16
Tetrachloro-m-xylene	3.48	3.422443	1.67

11H0428-46 GH-CBKQ-046

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.23	1.18557	3.68
Tetrachloro-m-xylene	2.01	1.98923	1.04

B035244-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.73	1.72141	0.498
Decachlorobiphenyl	1.61	1.53528	4.75

B035244-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	0.41	0.47171	14
Aroclor-1260	0.44	0.44071	0.161
Surrogates			
Tetrachloro-m-xylene	1.58	1.57454	0.346
Decachlorobiphenyl	1.37	1.3213	3.62

B035244-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1260	0.44	0.45139	2.56
Aroclor-1016	0.43	0.47557	10.1
Surrogates			
Tetrachloro-m-xylene	1.66	1.65054	0.572
Decachlorobiphenyl	1.50	1.41744	5.66

B035272-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	4.14	4.23322	2.23
Tetrachloro-m-xylene	4.27	4.38578	2.68

B035272-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	3.5	4.0448	14.4
Aroclor-1260	3.3	3.56092	7.61
Surrogates			
Tetrachloro-m-xylene	3.46	3.5191	1.69
Decachlorobiphenyl	3.81	3.84438	0.898

B035272-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	4.0	4.40718	9.69
Aroclor-1260	3.7	4.0269	8.46
Surrogates			
Tetrachloro-m-xylene	4.29	4.33264	0.989
Decachlorobiphenyl	4.30	4.32896	0.671

B035273-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	3.79	3.81088	0.549
Tetrachloro-m-xylene	4.32	4.3952	1.73

B035273-BS1 LCS

Analyte		Results	%RPD
Aroclor-1260	3.7	3.9248	5.9
Aroclor-1016	4.4	5.10476	14.8
Surrogates			
Decachlorobiphenyl	3.88	3.91758	0.964
Tetrachloro-m-xylene	4.53	4.57822	1.06

B035273-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	4.1	4.76668	15
Aroclor-1260	3.6	3.78414	4.99
Surrogates			
Decachlorobiphenyl	3.90	3.9486	1.24
Tetrachloro-m-xylene	4.29	4.35374	1.47

B035347-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	3.85	3.94068	2.33

Decachlorobiphenyl	3.75	3.8443	2.48

B035347-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	3.7	4.15796	11.7
Aroclor-1260	3.8	4.37504	14.1
Surrogates			
Tetrachloro-m-xylene	3.77	3.88336	2.96
Decachlorobiphenyl	3.88	3.92626	1.19

B035347-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	3.8	4.19102	9.79
Aroclor-1260	3.8	4.31474	12.7
Surrogates			
Tetrachloro-m-xylene	3.80	3.90258	2.66
Decachlorobiphenyl	3.79	3.85616	1.73

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September 2, 2011

George Franklin
Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810

Project Location: UMASS - Grayson
Client Job Number:
Project Number: 224166
Laboratory Work Order Number: 11H0979

Enclosed are results of analyses for samples received by the laboratory on August 24, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810
ATTN: George Franklin

REPORT DATE: 9/2/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224166

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11H0979

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

PROJECT LOCATION: UMASS - Grayson

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GH-CBK-046	11H0979-01	Caulk		SW-846 8082A	
GH-CBK-047	11H0979-02	Caulk		SW-846 8082A	
GH-CBK-048	11H0979-03	Caulk		SW-846 8082A	
GH-CBK-049	11H0979-04	Caulk		SW-846 8082A	
GH-CBK-050	11H0979-05	Caulk		SW-846 8082A	
GH-CBK-051	11H0979-06	Caulk		SW-846 8082A	
GH-CBK-052	11H0979-07	Caulk		SW-846 8082A	
GH-CBK-053	11H0979-08	Caulk		SW-846 8082A	
GH-CBK-058	11H0979-09	Caulk		SW-846 8082A	
GH-CBK-061	11H0979-10	Caulk		SW-846 8082A	
GH-CBK-062	11H0979-11	Caulk		SW-846 8082A	
GH-CBK-063	11H0979-12	Caulk		SW-846 8082A	
GH-CBK-064	11H0979-13	Caulk		SW-846 8082A	
GH-CBC-066	11H0979-14	Caulk		SW-846 8082A	
GH-CBK-065	11H0979-15	Caulk		SW-846 8082A	
GH-CBK-068	11H0979-16	Caulk		SW-846 8082A	
GH-CBK-071	11H0979-17	Caulk		SW-846 8082A	
GH-CBC-075	11H0979-18	Caulk		SW-846 8082A	
GH-CBB-078	11H0979-19	Caulk		SW-846 8082A	
GH-CBC-080	11H0979-20	Caulk		SW-846 8082A	
GH-CBC-085	11H0979-21	Caulk		SW-846 8082A	
GH-CBCD-082	11H0979-22	Caulk		SW-846 8082A	
GH-CBC-070	11H0979-23	Caulk		SW-846 8082A	
GH-CBCQ-087	11H0979-24	Water		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

SW-846 8082A

Qualifications:

Elevated detection limit due to matrix.

Analyte & Samples(s) Qualified:

11H0979-07[GH-CBK-052], 11H0979-08[GH-CBK-053], 11H0979-10[GH-CBK-061], 11H0979-13[GH-CBK-064]

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]

11H0979-02[GH-CBK-047], 11H0979-04[GH-CBK-049], 11H0979-07[GH-CBK-052], 11H0979-08[GH-CBK-053], 11H0979-09[GH-CBK-058], 11H0979-10[GH-CBK-061], 11H0979-11[GH-CBK-062], 11H0979-13[GH-CBK-064]

Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria, data not significantly affected.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl

B036344-BSD1

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: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-046
Sampled: 8/23/2011 09:45

Sample ID: 11H0979-01

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	0.99	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:11	JMB
Aroclor-1221 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:11	JMB
Aroclor-1232 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:11	JMB
Aroclor-1242 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:11	JMB
Aroclor-1248 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:11	JMB
Aroclor-1254 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:11	JMB
Aroclor-1260 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:11	JMB
Aroclor-1262 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:11	JMB
Aroclor-1268 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:11	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	118	30-150		8/30/11 15:11
Decachlorobiphenyl [2]	112	30-150		8/30/11 15:11
Tetrachloro-m-xylene [1]	107	30-150		8/30/11 15:11
Tetrachloro-m-xylene [2]	108	30-150		8/30/11 15:11

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Project Location: UMASS - Grayson | Sample Description: | Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-047 | Sampled: 8/23/2011 09:52

Sample ID: 11H0979-02

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	19	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 17:35	JMB
Aroclor-1221 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 17:35	JMB
Aroclor-1232 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 17:35	JMB
Aroclor-1242 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 17:35	JMB
Aroclor-1248 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 17:35	JMB
Aroclor-1254 [2]	150	19	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 17:35	JMB
Aroclor-1260 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 17:35	JMB
Aroclor-1262 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 17:35	JMB
Aroclor-1268 [1]	ND	19	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 17:35	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/29/11 17:35
Decachlorobiphenyl [2]	*	30-150	S-01	8/29/11 17:35
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/29/11 17:35
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/29/11 17:35

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Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-048
Sampled: 8/23/2011 10:00

Sample ID: 11H0979-03

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	3.9	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 17:48	JMB
Aroclor-1221 [1]	ND	3.9	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 17:48	JMB
Aroclor-1232 [1]	ND	3.9	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 17:48	JMB
Aroclor-1242 [1]	ND	3.9	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 17:48	JMB
Aroclor-1248 [1]	ND	3.9	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 17:48	JMB
Aroclor-1254 [1]	12	3.9	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 17:48	JMB
Aroclor-1260 [1]	ND	3.9	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 17:48	JMB
Aroclor-1262 [1]	ND	3.9	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 17:48	JMB
Aroclor-1268 [1]	ND	3.9	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 17:48	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	112	30-150		8/29/11 17:48
Decachlorobiphenyl [2]	137	30-150		8/29/11 17:48
Tetrachloro-m-xylene [1]	102	30-150		8/29/11 17:48
Tetrachloro-m-xylene [2]	101	30-150		8/29/11 17:48

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Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-049
Sampled: 8/23/2011 10:35

Sample ID: 11H0979-04

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	9.5	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:01	JMB
Aroclor-1221 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:01	JMB
Aroclor-1232 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:01	JMB
Aroclor-1242 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:01	JMB
Aroclor-1248 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:01	JMB
Aroclor-1254 [2]	66	9.5	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:01	JMB
Aroclor-1260 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:01	JMB
Aroclor-1262 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:01	JMB
Aroclor-1268 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:01	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/29/11 18:01
Decachlorobiphenyl [2]	*	30-150	S-01	8/29/11 18:01
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/29/11 18:01
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/29/11 18:01

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Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-050
Sampled: 8/23/2011 10:50

Sample ID: 11H0979-05

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	3.6	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 18:14	JMB
Aroclor-1221 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 18:14	JMB
Aroclor-1232 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 18:14	JMB
Aroclor-1242 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 18:14	JMB
Aroclor-1248 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 18:14	JMB
Aroclor-1254 [1]	4.1	3.6	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 18:14	JMB
Aroclor-1260 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 18:14	JMB
Aroclor-1262 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 18:14	JMB
Aroclor-1268 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	8/26/11	8/29/11 18:14	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	77.0	30-150		8/29/11 18:14
Decachlorobiphenyl [2]	113	30-150		8/29/11 18:14
Tetrachloro-m-xylene [1]	104	30-150		8/29/11 18:14
Tetrachloro-m-xylene [2]	101	30-150		8/29/11 18:14

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Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-051
Sampled: 8/23/2011 11:03

Sample ID: 11H0979-06

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	0.98	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 18:27	JMB
Aroclor-1221 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 18:27	JMB
Aroclor-1232 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 18:27	JMB
Aroclor-1242 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 18:27	JMB
Aroclor-1248 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 18:27	JMB
Aroclor-1254 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 18:27	JMB
Aroclor-1260 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 18:27	JMB
Aroclor-1262 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 18:27	JMB
Aroclor-1268 [1]	ND	0.98	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 18:27	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.7	30-150		8/29/11 18:27
Decachlorobiphenyl [2]	99.7	30-150		8/29/11 18:27
Tetrachloro-m-xylene [1]	97.0	30-150		8/29/11 18:27
Tetrachloro-m-xylene [2]	85.0	30-150		8/29/11 18:27

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Project Location: UMASS - Grayson | Sample Description: | Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-052 | Sampled: 8/23/2011 11:10

Sample ID: 11H0979-07

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.6	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:40	JMB
Aroclor-1221 [1]	ND	9.6	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:40	JMB
Aroclor-1232 [1]	ND	9.6	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:40	JMB
Aroclor-1242 [1]	ND	9.6	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:40	JMB
Aroclor-1248 [1]	ND	9.6	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:40	JMB
Aroclor-1254 [1]	ND	9.6	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:40	JMB
Aroclor-1260 [1]	ND	9.6	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:40	JMB
Aroclor-1262 [1]	ND	9.6	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:40	JMB
Aroclor-1268 [1]	ND	9.6	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:40	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/29/11 18:40
Decachlorobiphenyl [2]	*	30-150	S-01	8/29/11 18:40
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/29/11 18:40
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/29/11 18:40

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Project Location: UMASS - Grayson | Sample Description: | Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-053 | Sampled: 8/23/2011 11:17

Sample ID: 11H0979-08

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:53	JMB
Aroclor-1221 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:53	JMB
Aroclor-1232 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:53	JMB
Aroclor-1242 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:53	JMB
Aroclor-1248 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:53	JMB
Aroclor-1254 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:53	JMB
Aroclor-1260 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:53	JMB
Aroclor-1262 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:53	JMB
Aroclor-1268 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 18:53	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/29/11 18:53
Decachlorobiphenyl [2]	*	30-150	S-01	8/29/11 18:53
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/29/11 18:53
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/29/11 18:53

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Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-058
Sampled: 8/23/2011 12:18

Sample ID: 11H0979-09

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	9.4	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:06	JMB
Aroclor-1221 [1]	ND	9.4	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:06	JMB
Aroclor-1232 [1]	ND	9.4	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:06	JMB
Aroclor-1242 [1]	ND	9.4	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:06	JMB
Aroclor-1248 [1]	ND	9.4	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:06	JMB
Aroclor-1254 [1]	ND	9.4	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:06	JMB
Aroclor-1260 [1]	ND	9.4	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:06	JMB
Aroclor-1262 [1]	ND	9.4	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:06	JMB
Aroclor-1268 [1]	ND	9.4	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:06	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/29/11 19:06
Decachlorobiphenyl [2]	*	30-150	S-01	8/29/11 19:06
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/29/11 19:06
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/29/11 19:06

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

Project Location: UMASS - Grayson | Sample Description: | Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-061 | Sampled: 8/23/2011 13:25

Sample ID: 11H0979-10

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	38	mg/Kg	200		SW-846 8082A	8/26/11	8/29/11 19:19	JMB
Aroclor-1221 [1]	ND	38	mg/Kg	200		SW-846 8082A	8/26/11	8/29/11 19:19	JMB
Aroclor-1232 [1]	ND	38	mg/Kg	200		SW-846 8082A	8/26/11	8/29/11 19:19	JMB
Aroclor-1242 [1]	ND	38	mg/Kg	200		SW-846 8082A	8/26/11	8/29/11 19:19	JMB
Aroclor-1248 [1]	ND	38	mg/Kg	200		SW-846 8082A	8/26/11	8/29/11 19:19	JMB
Aroclor-1254 [1]	ND	38	mg/Kg	200		SW-846 8082A	8/26/11	8/29/11 19:19	JMB
Aroclor-1260 [1]	ND	38	mg/Kg	200		SW-846 8082A	8/26/11	8/29/11 19:19	JMB
Aroclor-1262 [1]	ND	38	mg/Kg	200		SW-846 8082A	8/26/11	8/29/11 19:19	JMB
Aroclor-1268 [1]	ND	38	mg/Kg	200		SW-846 8082A	8/26/11	8/29/11 19:19	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/29/11 19:19
Decachlorobiphenyl [2]	*	30-150	S-01	8/29/11 19:19
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/29/11 19:19
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/29/11 19:19

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Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-062
Sampled: 8/23/2011 13:30

Sample ID: 11H0979-11

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	20	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 19:32	JMB
Aroclor-1221 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 19:32	JMB
Aroclor-1232 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 19:32	JMB
Aroclor-1242 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 19:32	JMB
Aroclor-1248 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 19:32	JMB
Aroclor-1254 [2]	400	20	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 19:32	JMB
Aroclor-1260 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 19:32	JMB
Aroclor-1262 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 19:32	JMB
Aroclor-1268 [1]	ND	20	mg/Kg	100		SW-846 8082A	8/26/11	8/29/11 19:32	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/29/11 19:32
Decachlorobiphenyl [2]	*	30-150	S-01	8/29/11 19:32
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/29/11 19:32
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/29/11 19:32

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Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-063
Sampled: 8/23/2011 13:35

Sample ID: 11H0979-12

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	0.89	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 19:45	JMB
Aroclor-1221 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 19:45	JMB
Aroclor-1232 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 19:45	JMB
Aroclor-1242 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 19:45	JMB
Aroclor-1248 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 19:45	JMB
Aroclor-1254 [2]	7.7	0.89	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 19:45	JMB
Aroclor-1260 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 19:45	JMB
Aroclor-1262 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 19:45	JMB
Aroclor-1268 [1]	ND	0.89	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 19:45	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	102	30-150		8/29/11 19:45
Decachlorobiphenyl [2]	106	30-150		8/29/11 19:45
Tetrachloro-m-xylene [1]	96.3	30-150		8/29/11 19:45
Tetrachloro-m-xylene [2]	89.4	30-150		8/29/11 19:45

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

Project Location: UMASS - Grayson | Sample Description: | Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-064 | Sampled: 8/23/2011 13:40

Sample ID: 11H0979-13

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:58	JMB
Aroclor-1221 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:58	JMB
Aroclor-1232 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:58	JMB
Aroclor-1242 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:58	JMB
Aroclor-1248 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:58	JMB
Aroclor-1254 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:58	JMB
Aroclor-1260 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:58	JMB
Aroclor-1262 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:58	JMB
Aroclor-1268 [1]	ND	10	mg/Kg	50		SW-846 8082A	8/26/11	8/29/11 19:58	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	8/29/11 19:58
Decachlorobiphenyl [2]	*	30-150	S-01	8/29/11 19:58
Tetrachloro-m-xylene [1]	*	30-150	S-01	8/29/11 19:58
Tetrachloro-m-xylene [2]	*	30-150	S-01	8/29/11 19:58

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Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBC-066
Sampled: 8/23/2011 14:10

Sample ID: 11H0979-14

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	0.96	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:24	JMB
Aroclor-1221 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:24	JMB
Aroclor-1232 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:24	JMB
Aroclor-1242 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:24	JMB
Aroclor-1248 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:24	JMB
Aroclor-1254 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:24	JMB
Aroclor-1260 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:24	JMB
Aroclor-1262 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:24	JMB
Aroclor-1268 [1]	ND	0.96	mg/Kg	5		SW-846 8082A	8/26/11	8/30/11 15:24	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	121	30-150		8/30/11 15:24
Decachlorobiphenyl [2]	120	30-150		8/30/11 15:24
Tetrachloro-m-xylene [1]	115	30-150		8/30/11 15:24
Tetrachloro-m-xylene [2]	121	30-150		8/30/11 15:24

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

Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-065
Sampled: 8/23/2011 14:15

Sample ID: 11H0979-15

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	0.97	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 20:24	JMB
Aroclor-1221 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 20:24	JMB
Aroclor-1232 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 20:24	JMB
Aroclor-1242 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 20:24	JMB
Aroclor-1248 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 20:24	JMB
Aroclor-1254 [2]	2.2	0.97	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 20:24	JMB
Aroclor-1260 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 20:24	JMB
Aroclor-1262 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 20:24	JMB
Aroclor-1268 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	8/26/11	8/29/11 20:24	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	116	30-150		8/29/11 20:24
Decachlorobiphenyl [2]	114	30-150		8/29/11 20:24
Tetrachloro-m-xylene [1]	102	30-150		8/29/11 20:24
Tetrachloro-m-xylene [2]	105	30-150		8/29/11 20:24

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

Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-068
Sampled: 8/23/2011 15:15

Sample ID: 11H0979-16

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	0.87	mg/Kg	5		SW-846 8082A	8/26/11	8/31/11 16:27	JMB
Aroclor-1221 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/26/11	8/31/11 16:27	JMB
Aroclor-1232 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/26/11	8/31/11 16:27	JMB
Aroclor-1242 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/26/11	8/31/11 16:27	JMB
Aroclor-1248 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/26/11	8/31/11 16:27	JMB
Aroclor-1254 [2]	13	0.87	mg/Kg	5		SW-846 8082A	8/26/11	8/31/11 16:27	JMB
Aroclor-1260 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/26/11	8/31/11 16:27	JMB
Aroclor-1262 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/26/11	8/31/11 16:27	JMB
Aroclor-1268 [1]	ND	0.87	mg/Kg	5		SW-846 8082A	8/26/11	8/31/11 16:27	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	111	30-150		8/31/11 16:27
Decachlorobiphenyl [2]	107	30-150		8/31/11 16:27
Tetrachloro-m-xylene [1]	78.1	30-150		8/31/11 16:27
Tetrachloro-m-xylene [2]	97.4	30-150		8/31/11 16:27

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

Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBK-071
Sampled: 8/23/2011 15:00

Sample ID: 11H0979-17

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	0.90	mg/Kg	5		SW-846 8082A	8/26/11	9/1/11 11:02	JMB
Aroclor-1221 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	8/26/11	9/1/11 11:02	JMB
Aroclor-1232 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	8/26/11	9/1/11 11:02	JMB
Aroclor-1242 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	8/26/11	9/1/11 11:02	JMB
Aroclor-1248 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	8/26/11	9/1/11 11:02	JMB
Aroclor-1254 [1]	2.0	0.90	mg/Kg	5		SW-846 8082A	8/26/11	9/1/11 11:02	JMB
Aroclor-1260 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	8/26/11	9/1/11 11:02	JMB
Aroclor-1262 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	8/26/11	9/1/11 11:02	JMB
Aroclor-1268 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	8/26/11	9/1/11 11:02	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	131	30-150		9/1/11 11:02
Decachlorobiphenyl [2]	122	30-150		9/1/11 11:02
Tetrachloro-m-xylene [1]	117	30-150		9/1/11 11:02
Tetrachloro-m-xylene [2]	117	30-150		9/1/11 11:02

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

Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBC-075
Sampled: 8/23/2011 16:45

Sample ID: 11H0979-18

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	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 22:55	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 22:55	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 22:55	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 22:55	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 22:55	JMB
Aroclor-1254 [2]	0.15	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 22:55	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 22:55	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 22:55	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 22:55	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	90.0	30-150		8/29/11 22:55
Decachlorobiphenyl [2]	96.5	30-150		8/29/11 22:55
Tetrachloro-m-xylene [1]	106	30-150		8/29/11 22:55
Tetrachloro-m-xylene [2]	102	30-150		8/29/11 22:55

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

Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBB-078
Sampled: 8/23/2011 09:20

Sample ID: 11H0979-19

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	0.10	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:08	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:08	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:08	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:08	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:08	JMB
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:08	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:08	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:08	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:08	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	85.5	30-150		8/29/11 23:08
Decachlorobiphenyl [2]	91.5	30-150		8/29/11 23:08
Tetrachloro-m-xylene [1]	113	30-150		8/29/11 23:08
Tetrachloro-m-xylene [2]	108	30-150		8/29/11 23:08

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

Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBC-080
Sampled: 8/23/2011 10:25

Sample ID: 11H0979-20

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	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:22	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:22	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:22	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:22	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:22	JMB
Aroclor-1254 [2]	0.77	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:22	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:22	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:22	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:22	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		8/29/11 23:22
Decachlorobiphenyl [2]	108	30-150		8/29/11 23:22
Tetrachloro-m-xylene [1]	104	30-150		8/29/11 23:22
Tetrachloro-m-xylene [2]	99.7	30-150		8/29/11 23:22

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

Project Location: UMASS - Grayson | Sample Description: | Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBC-085 | Sampled: 8/23/2011 13:45

Sample ID: 11H0979-21

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	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:36	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:36	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:36	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:36	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:36	JMB
Aroclor-1254 [1]	0.23	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:36	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:36	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:36	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:36	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	111	30-150		8/29/11 23:36
Decachlorobiphenyl [2]	119	30-150		8/29/11 23:36
Tetrachloro-m-xylene [1]	107	30-150		8/29/11 23:36
Tetrachloro-m-xylene [2]	102	30-150		8/29/11 23:36

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

Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBCD-082
Sampled: 8/23/2011 10:25

Sample ID: 11H0979-22

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	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:50	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:50	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:50	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:50	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:50	JMB
Aroclor-1254 [2]	1.1	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:50	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:50	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:50	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	8/27/11	8/29/11 23:50	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	97.0	30-150		8/29/11 23:50
Decachlorobiphenyl [2]	104	30-150		8/29/11 23:50
Tetrachloro-m-xylene [1]	109	30-150		8/29/11 23:50
Tetrachloro-m-xylene [2]	105	30-150		8/29/11 23:50

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

Project Location: UMASS - Grayson
Sample Description:
Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBC-070
Sampled: 8/23/2011 15:25

Sample ID: 11H0979-23

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	0.091	mg/Kg	1		SW-846 8082A	8/27/11	8/30/11 0:04	JMB
Aroclor-1221 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	8/27/11	8/30/11 0:04	JMB
Aroclor-1232 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	8/27/11	8/30/11 0:04	JMB
Aroclor-1242 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	8/27/11	8/30/11 0:04	JMB
Aroclor-1248 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	8/27/11	8/30/11 0:04	JMB
Aroclor-1254 [1]	0.27	0.091	mg/Kg	1		SW-846 8082A	8/27/11	8/30/11 0:04	JMB
Aroclor-1260 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	8/27/11	8/30/11 0:04	JMB
Aroclor-1262 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	8/27/11	8/30/11 0:04	JMB
Aroclor-1268 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	8/27/11	8/30/11 0:04	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		8/30/11 0:04
Decachlorobiphenyl [2]	107	30-150		8/30/11 0:04
Tetrachloro-m-xylene [1]	102	30-150		8/30/11 0:04
Tetrachloro-m-xylene [2]	98.7	30-150		8/30/11 0:04

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

Project Location: UMASS - Grayson | Sample Description: | Work Order: 11H0979

Date Received: 8/24/2011

Field Sample #: GH-CBCQ-087 | Sampled: 8/23/2011 17:20

Sample ID: 11H0979-24

Sample Matrix: Water

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/L	1		SW-846 8082A	8/30/11	9/1/11 13:20	JMB
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/30/11	9/1/11 13:20	JMB
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/30/11	9/1/11 13:20	JMB
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/30/11	9/1/11 13:20	JMB
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/30/11	9/1/11 13:20	JMB
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/30/11	9/1/11 13:20	JMB
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/30/11	9/1/11 13:20	JMB
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/30/11	9/1/11 13:20	JMB
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/30/11	9/1/11 13:20	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	55.7	30-150		9/1/11 13:20
Decachlorobiphenyl [2]	52.0	30-150		9/1/11 13:20
Tetrachloro-m-xylene [1]	89.7	30-150		9/1/11 13:20
Tetrachloro-m-xylene [2]	93.1	30-150		9/1/11 13:20

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 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11H0979-01 [GH-CBK-046]	B036259	0.507	10.0	08/26/11
11H0979-02 [GH-CBK-047]	B036259	0.515	10.0	08/26/11
11H0979-03 [GH-CBK-048]	B036259	0.509	10.0	08/26/11
11H0979-04 [GH-CBK-049]	B036259	0.525	10.0	08/26/11
11H0979-05 [GH-CBK-050]	B036259	0.552	10.0	08/26/11
11H0979-06 [GH-CBK-051]	B036259	0.510	10.0	08/26/11
11H0979-07 [GH-CBK-052]	B036259	0.521	10.0	08/26/11
11H0979-08 [GH-CBK-053]	B036259	0.550	10.0	08/26/11
11H0979-09 [GH-CBK-058]	B036259	0.530	10.0	08/26/11
11H0979-10 [GH-CBK-061]	B036259	0.522	10.0	08/26/11
11H0979-11 [GH-CBK-062]	B036259	0.504	10.0	08/26/11
11H0979-12 [GH-CBK-063]	B036259	0.563	10.0	08/26/11
11H0979-13 [GH-CBK-064]	B036259	0.501	10.0	08/26/11
11H0979-14 [GH-CBC-066]	B036259	0.520	10.0	08/26/11
11H0979-15 [GH-CBK-065]	B036259	0.513	10.0	08/26/11

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11H0979-16 [GH-CBK-068]	B036344	0.577	10.0	08/26/11
11H0979-17 [GH-CBK-071]	B036344	0.555	10.0	08/26/11

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11H0979-18 [GH-CBC-075]	B036345	2.10	10.0	08/27/11
11H0979-19 [GH-CBB-078]	B036345	2.00	10.0	08/27/11
11H0979-20 [GH-CBC-080]	B036345	2.10	10.0	08/27/11
11H0979-21 [GH-CBC-085]	B036345	2.10	10.0	08/27/11
11H0979-22 [GH-CBCD-082]	B036345	2.10	10.0	08/27/11
11H0979-23 [GH-CBC-070]	B036345	2.20	10.0	08/27/11

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11H0979-24 [GH-CBCQ-087]	B036420	1000	10.0	08/30/11

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 B036259 - SW-846 3540C										
Blank (B036259-BLK1)				Prepared: 08/26/11 Analyzed: 08/29/11						
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	*3.72*		mg/Kg	4.00		93.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.61*		mg/Kg	4.00		90.3	30-150			
Surrogate: Tetrachloro-m-xylene	*3.89*		mg/Kg	4.00		97.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.96*		mg/Kg	4.00		99.1	30-150			
LCS (B036259-BS1)				Prepared: 08/26/11 Analyzed: 08/29/11						
Aroclor-1016	3.9	0.20	mg/Kg	4.00		98.1	40-140			
Aroclor-1016 [2C]	3.9	0.20	mg/Kg	4.00		97.4	40-140			
Aroclor-1260	3.8	0.20	mg/Kg	4.00		95.1	40-140			
Aroclor-1260 [2C]	3.6	0.20	mg/Kg	4.00		89.8	40-140			
Surrogate: Decachlorobiphenyl	*3.95*		mg/Kg	4.00		98.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.83*		mg/Kg	4.00		95.7	30-150			
Surrogate: Tetrachloro-m-xylene	*3.84*		mg/Kg	4.00		95.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.89*		mg/Kg	4.00		97.3	30-150			
LCS Dup (B036259-BSD1)				Prepared: 08/26/11 Analyzed: 08/29/11						
Aroclor-1016	4.0	0.20	mg/Kg	4.00		100	40-140	2.01	30	
Aroclor-1016 [2C]	3.9	0.20	mg/Kg	4.00		96.8	40-140	0.566	30	
Aroclor-1260	3.8	0.20	mg/Kg	4.00		93.8	40-140	1.38	30	
Aroclor-1260 [2C]	3.6	0.20	mg/Kg	4.00		89.7	40-140	0.141	30	
Surrogate: Decachlorobiphenyl	*3.87*		mg/Kg	4.00		96.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.77*		mg/Kg	4.00		94.3	30-150			
Surrogate: Tetrachloro-m-xylene	*4.14*		mg/Kg	4.00		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*4.28*		mg/Kg	4.00		107	30-150			

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 B036344 - SW-846 3540C										
Blank (B036344-BLK1)				Prepared: 08/26/11 Analyzed: 08/31/11						
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	*6.83*		mg/Kg	8.00		85.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.52*		mg/Kg	8.00		81.5	30-150			
Surrogate: Tetrachloro-m-xylene	*6.82*		mg/Kg	8.00		85.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.71*		mg/Kg	8.00		83.9	30-150			
LCS (B036344-BS1)				Prepared: 08/26/11 Analyzed: 08/31/11						
Aroclor-1016	5.4	0.20	mg/Kg	4.00		136	40-140			
Aroclor-1016 [2C]	5.0	0.20	mg/Kg	4.00		124	40-140			
Aroclor-1260	5.3	0.20	mg/Kg	4.00		131	40-140			
Aroclor-1260 [2C]	5.0	0.20	mg/Kg	4.00		125	40-140			
Surrogate: Decachlorobiphenyl	*4.88*		mg/Kg	4.00		122	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.60*		mg/Kg	4.00		115	30-150			
Surrogate: Tetrachloro-m-xylene	*5.99*		mg/Kg	4.00		150	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.96*		mg/Kg	4.00		149	30-150			
LCS Dup (B036344-BSD1)				Prepared: 08/26/11 Analyzed: 08/31/11						
Aroclor-1016	5.6	0.20	mg/Kg	4.00		139	40-140	2.05	30	
Aroclor-1016 [2C]	5.2	0.20	mg/Kg	4.00		129	40-140	3.83	30	
Aroclor-1260	5.6	0.20	mg/Kg	4.00		140	40-140	6.16	30	
Aroclor-1260 [2C]	5.4	0.20	mg/Kg	4.00		136	40-140	8.68	30	
Surrogate: Decachlorobiphenyl	*6.28*		mg/Kg	4.00		**157** *	30-150			S-23
Surrogate: Decachlorobiphenyl [2C]	*5.99*		mg/Kg	4.00		150	30-150			
Surrogate: Tetrachloro-m-xylene	*5.97*		mg/Kg	4.00		149	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.96*		mg/Kg	4.00		149	30-150			

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 B036345 - SW-846 3540C										
Blank (B036345-BLK1)				Prepared: 08/27/11 Analyzed: 08/29/11						
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]	*1.08*		mg/Kg	1.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	*1.07*		mg/Kg	1.00		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.10*		mg/Kg	1.00		110	30-150			
LCS (B036345-BS1)				Prepared: 08/27/11 Analyzed: 08/29/11						
Aroclor-1016	0.30	0.10	mg/Kg	0.250		121	40-140			
Aroclor-1016 [2C]	0.31	0.10	mg/Kg	0.250		123	40-140			
Aroclor-1260	0.29	0.10	mg/Kg	0.250		117	40-140			
Aroclor-1260 [2C]	0.27	0.10	mg/Kg	0.250		107	40-140			
Surrogate: Decachlorobiphenyl	*1.10*		mg/Kg	1.00		110	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.16*		mg/Kg	1.00		116	30-150			
Surrogate: Tetrachloro-m-xylene	*1.04*		mg/Kg	1.00		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.07*		mg/Kg	1.00		107	30-150			
LCS Dup (B036345-BSD1)				Prepared: 08/27/11 Analyzed: 08/29/11						
Aroclor-1016	0.30	0.10	mg/Kg	0.250		118	40-140	2.24	30	
Aroclor-1016 [2C]	0.33	0.10	mg/Kg	0.250		132	40-140	7.11	30	
Aroclor-1260	0.30	0.10	mg/Kg	0.250		118	40-140	1.40	30	
Aroclor-1260 [2C]	0.28	0.10	mg/Kg	0.250		113	40-140	5.92	30	
Surrogate: Decachlorobiphenyl	*1.09*		mg/Kg	1.00		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.14*		mg/Kg	1.00		114	30-150			
Surrogate: Tetrachloro-m-xylene	*1.07*		mg/Kg	1.00		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.09*		mg/Kg	1.00		109	30-150			

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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 B036420 - SW-846 3510C										
Blank (B036420-BLK1)				Prepared: 08/30/11 Analyzed: 09/01/11						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*1.54*		µg/L	2.00		77.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.43*		µg/L	2.00		71.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.74*		µg/L	2.00		87.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.82*		µg/L	2.00		91.0	30-150			
LCS (B036420-BS1)				Prepared: 08/30/11 Analyzed: 09/01/11						
Aroclor-1016	0.45	0.20	µg/L	0.500		90.1	40-140			
Aroclor-1016 [2C]	0.52	0.20	µg/L	0.500		104	40-140			
Aroclor-1260	0.45	0.20	µg/L	0.500		90.7	40-140			
Aroclor-1260 [2C]	0.49	0.20	µg/L	0.500		97.9	40-140			
Surrogate: Decachlorobiphenyl	*1.65*		µg/L	2.00		82.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.51*		µg/L	2.00		75.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.57*		µg/L	2.00		78.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.64*		µg/L	2.00		81.8	30-150			
LCS Dup (B036420-BSD1)				Prepared: 08/30/11 Analyzed: 09/01/11						
Aroclor-1016	0.47	0.20	µg/L	0.500		93.8	40-140	3.99	20	
Aroclor-1016 [2C]	0.54	0.20	µg/L	0.500		108	40-140	4.52	20	
Aroclor-1260	0.47	0.20	µg/L	0.500		94.9	40-140	4.53	20	
Aroclor-1260 [2C]	0.51	0.20	µg/L	0.500		102	40-140	4.03	20	
Surrogate: Decachlorobiphenyl	*1.63*		µg/L	2.00		81.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.50*		µg/L	2.00		75.0	30-150			
Surrogate: Tetrachloro-m-xylene	*1.71*		µg/L	2.00		85.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.78*		µg/L	2.00		88.8	30-150			

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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.
DL-03	Elevated detection limit due to matrix.
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.
S-23	Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria, data not significantly affected.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC
Aroclor-1016 [2C]	CT,NH,NY,ME,NC
Aroclor-1221	CT,NH,NY,ME,NC
Aroclor-1221 [2C]	CT,NH,NY,ME,NC
Aroclor-1232	CT,NH,NY,ME,NC
Aroclor-1232 [2C]	CT,NH,NY,ME,NC
Aroclor-1242	CT,NH,NY,ME,NC
Aroclor-1242 [2C]	CT,NH,NY,ME,NC
Aroclor-1248	CT,NH,NY,ME,NC
Aroclor-1248 [2C]	CT,NH,NY,ME,NC
Aroclor-1254	CT,NH,NY,ME,NC
Aroclor-1254 [2C]	CT,NH,NY,ME,NC
Aroclor-1260	CT,NH,NY,ME,NC
Aroclor-1260 [2C]	CT,NH,NY,ME,NC
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,RI,NC,ME
Aroclor-1016 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1221	CT,NH,NY,RI,NC,ME
Aroclor-1221 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1232	CT,NH,NY,RI,NC,ME
Aroclor-1232 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1242	CT,NH,NY,RI,NC,ME
Aroclor-1242 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1248	CT,NH,NY,RI,NC,ME
Aroclor-1248 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1254	CT,NH,NY,RI,NC,ME
Aroclor-1254 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1260	CT,NH,NY,RI,NC,ME
Aroclor-1260 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

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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

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Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

11H0979

39 Spruce Street
East longmeadow, MA 01028

Company Name: Woodard & Curran
Address: 35 NE Bus. Gr Suite 180
Andover MA 01810
Attention: George Franklin
Project Location: UMass - Grayson
Sampled By: George Franklin/Kim Rinard

Telephone: 978 557 8150
Project #
Client PO#

DATA DELIVERY (check all that apply)
O FAX ✓ EMAIL O WEBSITE
Fax #
Email: gfranklin@woodardcurran.com
Format: ✓ PDF ✓ 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	PCBs (3540C/8082)	# of Containers	** Preservation	***Container Code
-01	GH-CBK-046	8/23/11	0945		X	O	U*	X			
-02	GH-CBK-047	8/23/11	0952		X	O	U*	X			
-03	GH-CBK-048	8/23/11	1000		X	O	U*	X			
-04	GH-CBK-049	8/23/11	1035		X	O	U*	X			
-05	GH-CBK-050	8/23/11	1050		X	O	U*	X			
-06	GH-CBK-051	8/23/11	1103		X	O	U*	X			
-07	GH-CBK-052	8/23/11	1110		X	O	U*	X			
-08	GH-CBK-053	8/23/11	1117		X	O	U*	X			
-09	GH-CBK-058	8/23/11	1218		X	O	U*	X			
~~-10~~	~~GH-CBS-059~~	~~8/23/11~~	~~1245~~		~~X~~	~~S~~	~~U*~~	~~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 CAULK

Comments: * POTENTIAL SOURCE MATERIAL
PCBs VIA USEPA 8082 W/ SOXHLET EXTRACTION (3540C)
R.L. ≤ 1.0 mg/kg

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:
(K. Rinard)	8/24/11 1646
Received by: (signature)	Date/Time:
	8/24 1646
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 DAY STD TAT
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: ≤ 1.0 mg/kg

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene See chemicals and for details

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.

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Email: info@contestlabs.com
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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 2 of 3

11H0979

Company Name: Woodard & Curran
Address: 35 NE Bus. Ctr Suite 180
Andover MA 01810
Attention: George Franklin
Project Location: UMass – Grayson
Sampled By: George Franklin / Kim Rinard

Telephone: 978-557-8150
Project #
Client PO#

DATA DELIVERY (check all that apply)
O FAX ☑ EMAIL O WEBSITE
Fax #
Email: gfranklin@woodardcurran.com
Format: ☑ PDF ☑ EXCEL O GIS
O OTHER
O "Enhanced Data Package"

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

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	PCBs (3540C/8082)	ANALYSIS REQUESTED	# of Containers / ** Preservation / ***Container Code
	~~GH-CBS-060~~	~~8/23/11~~	~~1255~~		~~X~~	~~S~~	~~L~~			
-10	GH-CBK-061	8/23/11	1325		X	O	U*	X		
-11	GH-CBK-062	8/23/11	1330		X	O	U*	X		
-12	GH-CBK-063	8/23/11	1335		X	O	U*	X		
-13	GH-CBK-064	8/23/11	1340		X	O	U*	X		
-14	GH-CBC-066	8/23/11	1410		X	~~O~~	~~U~~ SL	X		
-15	GH-CBK-065	8/23/11	1415		X	O	U*	X		
	~~GH-CBC-069~~	~~8/23/11~~	~~1520~~		~~X~~	~~S~~	~~L~~	~~X~~	HOLD PER GF 8/24/11 KAR	
-16	GH-CBK-068	8/23/11	1515		X	O	U*	X		
-17	GH-CBK-071	8/23/11	1500		X	O	U*	X		

Comments: PCBs via USEPA 8082 w/ Soxhlet Extraction (3540C)
R.L. ≤ 1.0 mg/kg
* Potential Source Material

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 Caulk

Relinquished by: (signature)	Date/Time:
KAW (K. Rinard)	8/24/11 1646
Received by: (signature) Steve Nilsen	Date/Time: 8/24 1646
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: ≤ 1.0 mg/kg

Is your project MCP or RCP ?
O MCP Analytical Certification Form Required
O RCP Analysis Certification 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 (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.

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Page 3 of 3

11H0979

Company Name: Woodard & Curran
Address: 35 NE Bus Ctr Suite 180
Andover MA 01810
Attention: George Frankl
Project Location: UMass - Grayson
Sampled By: George Frankl / Kim Rinard

Telephone: 978 557 8150
Project #
Client PO#

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

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

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	PCBs	ANALYSIS REQUESTED	# of Containers / ** Preservation / ***Container Code
	~~GH-CBC-074~~	~~8/23/11~~	~~1640~~		X	S	L	X		Can
-18	GH-CBC-075	8/23/11	1645		X	S	L	X		
-19	GH-~~CBC~~ CBB-078	8/24/11	0920		X	S	L	X		
-20	GH-CBC-080 KAR 8/24/11	8/24/11	1025		X	S	L	X		
-21	GH-CBC-085	8/24/11	1345		X	S	L	X		
-22	GH-CBCD-082	8/24/11	1025		X	S	L	X		
-23	GH-CBC-070	8/23/11	1525		X	O	L	X		
-24	GH-CBCQ-087	8/23/11	1720		X	W		X	(2 amber liters)	
										8/24/11 KAR
										8/24/11 KAR

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 CANIC

Comments: PCBs via USEPA 8082 w/ Soxhlet Extraction
RL ≤ 1.0 mg/kg

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:
KAR (K. Rinard)	8/24/11 1646
Received by: (signature)	Date/Time:
[illegible]	8/24 1646
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 DAY
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: ≤1.0 mg/kg

Is your project MCP or RCP ?
O MCP Analytical Certification Form Required
O RCP Analysis Certification Form Required
O 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

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: Woodard + Curran RECEIVED BY: SD DATE: 8/24/11

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 ☑ 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 5.3

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	2	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)	23	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	
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 M

11H0979-01 GH-CBK-046

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	4.22	4.265581	1.07
Decachlorobiphenyl	4.64	4.41568	4.95

11H0979-02 GH-CBK-047

Analyte	Results		%RPD
Aroclor-1254 [2C]	150	137.5262	8.68

11H0979-03 GH-CBK-048

Analyte	Results		%RPD
Aroclor-1254	12	11.96778	0.269
Surrogates			
Decachlorobiphenyl	4.42	5.388998	19.8
Tetrachloro-m-xylene	4.01	3.955599	1.37

11H0979-04 GH-CBK-049

Analyte	Results		%RPD
Aroclor-1254 [2C]	66	63.27905	4.21

11H0979-05 GH-CBK-050

Analyte	Results		%RPD
Aroclor-1254	4.1	4.081884	0.443
Surrogates			
Decachlorobiphenyl	2.79	4.080435	37.6
Tetrachloro-m-xylene	3.76	3.668478	2.46

11H0979-06 GH-CBK-051

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	3.75	3.910882	4.2
Tetrachloro-m-xylene	3.80	3.334216	13.1

11H0979-11 GH-CBK-062

Analyte	Results		%RPD
Aroclor-1254 [2C]	400	366.1786	8.83

11H0979-12 GH-CBK-063

Analyte	Results		%RPD
Aroclor-1254 [2C]	7.7	6.83659	11.9
Surrogates			
Decachlorobiphenyl	7.22	7.520337	4.08
Tetrachloro-m-xylene	6.84	6.348845	7.45

11H0979-14 GH-CBC-066

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	4.66	4.603269	1.22
Tetrachloro-m-xylene	4.44	4.634904	4.3

11H0979-15 GH-CBK-065

Analyte	Results		%RPD
Aroclor-1254 [2C]	2.2	1.903411	14.5
Surrogates			
Decachlorobiphenyl	4.51	4.460721	1.1
Tetrachloro-m-xylene	3.98	4.106433	3.13

11H0979-16 GH-CBK-068

Analyte	Results		%RPD
Aroclor-1254 [2C]	13	11.76352	9.99

Surrogates			
Tetrachloro-m-xylene	2.71	3.37747	21.9
Decachlorobiphenyl	3.84	3.699567	3.73

11H0979-17 GH-CBK-071

Analyte		Results	%RPD
Aroclor-1254	2.0	1.928288	3.65
Surrogates			
Decachlorobiphenyl	9.46	8.813784	7.07
Tetrachloro-m-xylene	8.46	8.428198	0.377

11H0979-18 GH-CBC-075

Analyte		Results	%RPD
Aroclor-1254 [2C]	0.15	0.1478714	1.43
Surrogates			
Decachlorobiphenyl	0.857	0.9189048	6.97
Tetrachloro-m-xylene	1.01	0.9696191	4.08

11H0979-19 GH-CBB-078

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	1.13	1.08313	4.24
Decachlorobiphenyl	0.855	0.91514	6.79

11H0979-20 GH-CBC-080

Analyte		Results	%RPD
Aroclor-1254 [2C]	0.77	0.6586905	15.6
Surrogates			
Tetrachloro-m-xylene	0.988	0.9498953	3.93
Decachlorobiphenyl	0.954	1.028119	7.48

11H0979-21 GH-CBC-085

Analyte		Results	%RPD
Aroclor-1254	0.23	0.2177952	5.45
Surrogates			
Decachlorobiphenyl	1.05	1.138052	8.05
Tetrachloro-m-xylene	1.02	0.9752857	4.48

11H0979-22 GH-CBCD-082

Analyte		Results	%RPD
Aroclor-1254 [2C]	1.1	1.008743	8.66
Surrogates			
Decachlorobiphenyl	0.924	0.994581	7.36
Tetrachloro-m-xylene	1.04	0.9990048	4.02

11H0979-23 GH-CBC-070

Analyte		Results	%RPD
Aroclor-1254	0.27	0.2487136	8.21
Surrogates			
Decachlorobiphenyl	0.909	0.9737682	6.88
Tetrachloro-m-xylene	0.927	0.8977227	3.21

11H0979-24 GH-CBCQ-087

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.11	1.03942	6.57
Tetrachloro-m-xylene	1.79	1.86257	3.97

B036259-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	3.72	3.61124	2.97
Tetrachloro-m-xylene	3.89	3.96422	1.89

B036259-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	3.9	3.89522	0.123
Aroclor-1260	3.8	3.59314	5.6
Surrogates			
Decachlorobiphenyl	3.95	3.8291	3.11
Tetrachloro-m-xylene	3.84	3.8909	1.32

B036259-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	4.0	3.87324	3.22
Aroclor-1260	3.8	3.58808	5.74
Surrogates			
Tetrachloro-m-xylene	4.14	4.2753	3.22
Decachlorobiphenyl	3.87	3.77378	2.52

B036344-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	6.83	6.5211	4.63
Tetrachloro-m-xylene	6.82	6.71008	1.62

B036344-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	5.4	4.97322	8.23
Aroclor-1260	5.3	4.98312	6.16
Surrogates			
Decachlorobiphenyl	4.88	4.59736	5.96
Tetrachloro-m-xylene	5.99	5.95542	0.579

B036344-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1260	5.6	5.4355	2.98
Aroclor-1016	5.6	5.16742	8.03
Surrogates			
Decachlorobiphenyl	6.28	5.98942	4.74
Tetrachloro-m-xylene	5.97	5.96258	0.124

B036345-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.03	1.077825	4.54
Tetrachloro-m-xylene	1.07	1.10187	2.93

B036345-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	0.30	0.3066	2.18
Aroclor-1260	0.29	0.266455	8.46
Surrogates			
Decachlorobiphenyl	1.10	1.15508	4.88
Tetrachloro-m-xylene	1.04	1.06632	2.5

B036345-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1260	0.30	0.28272	5.93
Aroclor-1016	0.30	0.329195	9.28
Surrogates			
Decachlorobiphenyl	1.09	1.1351	4.05
Tetrachloro-m-xylene	1.07	1.094795	2.29

B036420-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	1.74	1.82048	4.52

Decachlorobiphenyl	1.54	1.43125	7.32

B036420-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.45	0.5183	14.1
Aroclor-1260	0.45	0.4894	8.39
Surrogates			
Decachlorobiphenyl	1.65	1.51301	8.66
Tetrachloro-m-xylene	1.57	1.63547	4.08

B036420-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.47	0.54227	14.3
Aroclor-1260	0.47	0.50952	8.07
Surrogates			
Tetrachloro-m-xylene	1.71	1.77576	3.77
Decachlorobiphenyl	1.63	1.50011	8.3

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November 2, 2011

George Franklin
Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810

Project Location: Amherst, MA
Client Job Number:
Project Number: 224824
Laboratory Work Order Number: 11J0811

Enclosed are results of analyses for samples received by the laboratory on October 21, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810
ATTN: George Franklin

REPORT DATE: 11/2/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224824

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0811

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

PROJECT LOCATION: Amherst, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GH-CBK-087	11J0811-01	Caulk		SW-846 8082A	
GH-CBK-088	11J0811-02	Caulk		SW-846 8082A	
GH-CBK-089	11J0811-03	Caulk		SW-846 8082A	
GH-CBK-090	11J0811-04	Caulk		SW-846 8082A	
GH-CBK-091	11J0811-05	Caulk		SW-846 8082A	
GH-CBK-092	11J0811-06	Caulk		SW-846 8082A	
GH-CBK-093	11J0811-07	Caulk		SW-846 8082A	
GH-CBK-094	11J0811-08	Caulk		SW-846 8082A	
GH-CBK-095	11J0811-09	Caulk		SW-846 8082A	
GH-CBK-096	11J0811-10	Caulk		SW-846 8082A	
GH-CBK-097	11J0811-11	Caulk		SW-846 8082A	
GH-CBK-098	11J0811-12	Caulk		SW-846 8082A	
GH-CBK-099	11J0811-13	Caulk		SW-846 8082A	
GH-CBK-100	11J0811-14	Caulk		SW-846 8082A	
GH-CBK-101	11J0811-15	Caulk		SW-846 8082A	
GH-CBK-102	11J0811-16	Caulk		SW-846 8082A	
GH-CBKD-103	11J0811-17	Caulk		SW-846 8082A	
GH-CBK-104	11J0811-18	Caulk		SW-846 8082A	
GH-CBK-105	11J0811-19	Caulk		SW-846 8082A	
GH-CBK-106	11J0811-20	Caulk		SW-846 8082A	
GH-CBK-107	11J0811-21	Caulk		SW-846 8082A	
GH-CBK-108	11J0811-22	Caulk		SW-846 8082A	
GH-CBK-109	11J0811-23	Caulk		SW-846 8082A	
GH-CBK-110	11J0811-24	Caulk		SW-846 8082A	
GH-CBK-111	11J0811-25	Caulk		SW-846 8082A	
GH-CBK-112	11J0811-26	Caulk		SW-846 8082A	
GH-CBK-113	11J0811-27	Caulk		SW-846 8082A	
GH-CBK-114	11J0811-28	Caulk		SW-846 8082A	
GH-CBK-115	11J0811-29	Caulk		SW-846 8082A	
GH-CBK-116	11J0811-30	Caulk		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

SW-846 8082A

Qualifications:

Elevated detection limit due to matrix.

Analyte & Samples(s) Qualified:

11J0811-02[GH-CBK-088], 11J0811-03[GH-CBK-089], 11J0811-07[GH-CBK-093], 11J0811-09[GH-CBK-095], 11J0811-11[GH-CBK-097], 11J0811-15[GH-CBK-101], 11J0811-26[GH-CBK-112], 11J0811-29[GH-CBK-115], 11J0811-30[GH-CBK-116]

Due to continuing calibration non-conformance on the confirmatory detector, the lower of two results was reported.

Analyte & Samples(s) Qualified:

Aroclor-1254

11J0811-17[GH-CBKD-103]

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]

11J0811-02[GH-CBK-088], 11J0811-03[GH-CBK-089], 11J0811-06[GH-CBK-092], 11J0811-07[GH-CBK-093], 11J0811-09[GH-CBK-095], 11J0811-10[GH-CBK-096], 11J0811-11[GH-CBK-097], 11J0811-12[GH-CBK-098], 11J0811-13[GH-CBK-099], 11J0811-14[GH-CBK-100], 11J0811-15[GH-CBK-101], 11J0811-16[GH-CBK-102], 11J0811-17[GH-CBKD-103], 11J0811-22[GH-CBK-108], 11J0811-23[GH-CBK-109], 11J0811-24[GH-CBK-110], 11J0811-25[GH-CBK-111], 11J0811-26[GH-CBK-112], 11J0811-27[GH-CBK-113], 11J0811-29[GH-CBK-115], 11J0811-30[GH-CBK-116]

Continuing calibration verification was outside of control limits on the confirmation column, but within control limits on the primary column. All sample results are reported from the column within control criteria.

Analyte & Samples(s) Qualified:

Aroclor-1254

11J0811-12[GH-CBK-098], 11J0811-13[GH-CBK-099], 11J0811-14[GH-CBK-100], 11J0811-16[GH-CBK-102], 11J0811-17[GH-CBKD-103], 11J0811-19[GH-CBK-105], 11J0811-22[GH-CBK-108], 11J0811-23[GH-CBK-109], 11J0811-24[GH-CBK-110], 11J0811-25[GH-CBK-111], 11J0811-27[GH-CBK-113]

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: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-087
Sampled: 10/21/2011 09:35

Sample ID: 11J0811-01

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 20:34	PJG
Aroclor-1221 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 20:34	PJG
Aroclor-1232 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 20:34	PJG
Aroclor-1242 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 20:34	PJG
Aroclor-1248 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 20:34	PJG
Aroclor-1254 [1]	2.6	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 20:34	PJG
Aroclor-1260 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 20:34	PJG
Aroclor-1262 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 20:34	PJG
Aroclor-1268 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 20:34	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	93.7	30-150		10/28/11 20:34
Decachlorobiphenyl [2]	74.7	30-150		10/28/11 20:34
Tetrachloro-m-xylene [1]	73.1	30-150		10/28/11 20:34
Tetrachloro-m-xylene [2]	56.9	30-150		10/28/11 20:34

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

Project Location: Amherst, MA | Sample Description: | Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-088 | Sampled: 10/21/2011 09:45

Sample ID: 11J0811-02

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	180	mg/Kg	1000		SW-846 8082A	10/23/11	10/28/11 20:47	PJG
Aroclor-1221 [1]	ND	180	mg/Kg	1000		SW-846 8082A	10/23/11	10/28/11 20:47	PJG
Aroclor-1232 [1]	ND	180	mg/Kg	1000		SW-846 8082A	10/23/11	10/28/11 20:47	PJG
Aroclor-1242 [1]	ND	180	mg/Kg	1000		SW-846 8082A	10/23/11	10/28/11 20:47	PJG
Aroclor-1248 [1]	ND	180	mg/Kg	1000		SW-846 8082A	10/23/11	10/28/11 20:47	PJG
Aroclor-1254 [1]	ND	180	mg/Kg	1000		SW-846 8082A	10/23/11	10/28/11 20:47	PJG
Aroclor-1260 [1]	ND	180	mg/Kg	1000		SW-846 8082A	10/23/11	10/28/11 20:47	PJG
Aroclor-1262 [1]	ND	180	mg/Kg	1000		SW-846 8082A	10/23/11	10/28/11 20:47	PJG
Aroclor-1268 [1]	ND	180	mg/Kg	1000		SW-846 8082A	10/23/11	10/28/11 20:47	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/28/11 20:47
Decachlorobiphenyl [2]	*	30-150	S-01	10/28/11 20:47
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/28/11 20:47
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/28/11 20:47

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

Project Location: Amherst, MA | Sample Description: | Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-089 | Sampled: 10/21/2011 09:35

Sample ID: 11J0811-03

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:01	PJG
Aroclor-1221 [1]	ND	8.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:01	PJG
Aroclor-1232 [1]	ND	8.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:01	PJG
Aroclor-1242 [1]	ND	8.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:01	PJG
Aroclor-1248 [1]	ND	8.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:01	PJG
Aroclor-1254 [1]	ND	8.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:01	PJG
Aroclor-1260 [1]	ND	8.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:01	PJG
Aroclor-1262 [1]	ND	8.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:01	PJG
Aroclor-1268 [1]	ND	8.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:01	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/28/11 21:01
Decachlorobiphenyl [2]	*	30-150	S-01	10/28/11 21:01
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/28/11 21:01
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/28/11 21:01

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-090
Sampled: 10/21/2011 09:55

Sample ID: 11J0811-04

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:14	PJG
Aroclor-1221 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:14	PJG
Aroclor-1232 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:14	PJG
Aroclor-1242 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:14	PJG
Aroclor-1248 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:14	PJG
Aroclor-1254 [1]	4.4	0.92	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:14	PJG
Aroclor-1260 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:14	PJG
Aroclor-1262 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:14	PJG
Aroclor-1268 [1]	ND	0.92	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:14	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	111	30-150		10/28/11 21:14
Decachlorobiphenyl [2]	88.9	30-150		10/28/11 21:14
Tetrachloro-m-xylene [1]	86.1	30-150		10/28/11 21:14
Tetrachloro-m-xylene [2]	71.6	30-150		10/28/11 21:14

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-091
Sampled: 10/21/2011 09:40

Sample ID: 11J0811-05

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:27	PJG
Aroclor-1221 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:27	PJG
Aroclor-1232 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:27	PJG
Aroclor-1242 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:27	PJG
Aroclor-1248 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:27	PJG
Aroclor-1254 [2]	8.2	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:27	PJG
Aroclor-1260 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:27	PJG
Aroclor-1262 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:27	PJG
Aroclor-1268 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 21:27	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	111	30-150		10/28/11 21:27
Decachlorobiphenyl [2]	91.6	30-150		10/28/11 21:27
Tetrachloro-m-xylene [1]	92.8	30-150		10/28/11 21:27
Tetrachloro-m-xylene [2]	69.6	30-150		10/28/11 21:27

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-092
Sampled: 10/21/2011 10:47

Sample ID: 11J0811-06

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:40	PJG
Aroclor-1221 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:40	PJG
Aroclor-1232 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:40	PJG
Aroclor-1242 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:40	PJG
Aroclor-1248 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:40	PJG
Aroclor-1254 [1]	39	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:40	PJG
Aroclor-1260 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:40	PJG
Aroclor-1262 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:40	PJG
Aroclor-1268 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:40	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/28/11 21:40
Decachlorobiphenyl [2]	*	30-150	S-01	10/28/11 21:40
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/28/11 21:40
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/28/11 21:40

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Project Location: Amherst, MA | Sample Description: | Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-093 | Sampled: 10/21/2011 10:55

Sample ID: 11J0811-07

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:53	PJG
Aroclor-1221 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:53	PJG
Aroclor-1232 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:53	PJG
Aroclor-1242 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:53	PJG
Aroclor-1248 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:53	PJG
Aroclor-1254 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:53	PJG
Aroclor-1260 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:53	PJG
Aroclor-1262 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:53	PJG
Aroclor-1268 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 21:53	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/28/11 21:53
Decachlorobiphenyl [2]	*	30-150	S-01	10/28/11 21:53
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/28/11 21:53
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/28/11 21:53

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-094
Sampled: 10/21/2011 11:00

Sample ID: 11J0811-08

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.86	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 22:06	PJG
Aroclor-1221 [1]	ND	0.86	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 22:06	PJG
Aroclor-1232 [1]	ND	0.86	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 22:06	PJG
Aroclor-1242 [1]	ND	0.86	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 22:06	PJG
Aroclor-1248 [1]	ND	0.86	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 22:06	PJG
Aroclor-1254 [2]	3.5	0.86	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 22:06	PJG
Aroclor-1260 [1]	ND	0.86	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 22:06	PJG
Aroclor-1262 [1]	ND	0.86	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 22:06	PJG
Aroclor-1268 [1]	ND	0.86	mg/Kg	5		SW-846 8082A	10/23/11	10/28/11 22:06	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	92.3	30-150		10/28/11 22:06
Decachlorobiphenyl [2]	75.8	30-150		10/28/11 22:06
Tetrachloro-m-xylene [1]	80.0	30-150		10/28/11 22:06
Tetrachloro-m-xylene [2]	61.1	30-150		10/28/11 22:06

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-095
Sampled: 10/21/2011 11:10

Sample ID: 11J0811-09

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.3	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:19	PJG
Aroclor-1221 [1]	ND	9.3	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:19	PJG
Aroclor-1232 [1]	ND	9.3	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:19	PJG
Aroclor-1242 [1]	ND	9.3	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:19	PJG
Aroclor-1248 [1]	ND	9.3	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:19	PJG
Aroclor-1254 [1]	ND	9.3	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:19	PJG
Aroclor-1260 [1]	ND	9.3	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:19	PJG
Aroclor-1262 [1]	ND	9.3	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:19	PJG
Aroclor-1268 [1]	ND	9.3	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:19	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/28/11 22:19
Decachlorobiphenyl [2]	*	30-150	S-01	10/28/11 22:19
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/28/11 22:19
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/28/11 22:19

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-096
Sampled: 10/21/2011 11:12

Sample ID: 11J0811-10

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:33	PJG
Aroclor-1221 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:33	PJG
Aroclor-1232 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:33	PJG
Aroclor-1242 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:33	PJG
Aroclor-1248 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:33	PJG
Aroclor-1254 [1]	17	9.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:33	PJG
Aroclor-1260 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:33	PJG
Aroclor-1262 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:33	PJG
Aroclor-1268 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 22:33	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/28/11 22:33
Decachlorobiphenyl [2]	*	30-150	S-01	10/28/11 22:33
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/28/11 22:33
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/28/11 22:33

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

Project Location: Amherst, MA | Sample Description: | Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-097 | Sampled: 10/21/2011 11:15

Sample ID: 11J0811-11

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 23:38	PJG
Aroclor-1221 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 23:38	PJG
Aroclor-1232 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 23:38	PJG
Aroclor-1242 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 23:38	PJG
Aroclor-1248 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 23:38	PJG
Aroclor-1254 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 23:38	PJG
Aroclor-1260 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 23:38	PJG
Aroclor-1262 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 23:38	PJG
Aroclor-1268 [1]	ND	8.7	mg/Kg	50		SW-846 8082A	10/23/11	10/28/11 23:38	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/28/11 23:38
Decachlorobiphenyl [2]	*	30-150	S-01	10/28/11 23:38
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/28/11 23:38
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/28/11 23:38

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-098
Sampled: 10/21/2011 11:25

Sample ID: 11J0811-12

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/28/11 23:51	PJG
Aroclor-1221 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/28/11 23:51	PJG
Aroclor-1232 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/28/11 23:51	PJG
Aroclor-1242 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/28/11 23:51	PJG
Aroclor-1248 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/28/11 23:51	PJG
Aroclor-1254 [1]	75	18	mg/Kg	100	V-24	SW-846 8082A	10/23/11	10/28/11 23:51	PJG
Aroclor-1260 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/28/11 23:51	PJG
Aroclor-1262 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/28/11 23:51	PJG
Aroclor-1268 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/28/11 23:51	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/28/11 23:51
Decachlorobiphenyl [2]	*	30-150	S-01	10/28/11 23:51
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/28/11 23:51
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/28/11 23:51

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-099
Sampled: 10/21/2011 11:51

Sample ID: 11J0811-13

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	38	mg/Kg	200		SW-846 8082A	10/23/11	10/29/11 0:04	PJG
Aroclor-1221 [1]	ND	38	mg/Kg	200		SW-846 8082A	10/23/11	10/29/11 0:04	PJG
Aroclor-1232 [1]	ND	38	mg/Kg	200		SW-846 8082A	10/23/11	10/29/11 0:04	PJG
Aroclor-1242 [1]	ND	38	mg/Kg	200		SW-846 8082A	10/23/11	10/29/11 0:04	PJG
Aroclor-1248 [1]	ND	38	mg/Kg	200		SW-846 8082A	10/23/11	10/29/11 0:04	PJG
Aroclor-1254 [1]	200	38	mg/Kg	200	V-24	SW-846 8082A	10/23/11	10/29/11 0:04	PJG
Aroclor-1260 [1]	ND	38	mg/Kg	200		SW-846 8082A	10/23/11	10/29/11 0:04	PJG
Aroclor-1262 [1]	ND	38	mg/Kg	200		SW-846 8082A	10/23/11	10/29/11 0:04	PJG
Aroclor-1268 [1]	ND	38	mg/Kg	200		SW-846 8082A	10/23/11	10/29/11 0:04	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 0:04
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 0:04
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 0:04
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 0:04

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-100
Sampled: 10/21/2011 11:56

Sample ID: 11J0811-14

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:18	PJG
Aroclor-1221 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:18	PJG
Aroclor-1232 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:18	PJG
Aroclor-1242 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:18	PJG
Aroclor-1248 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:18	PJG
Aroclor-1254 [1]	60	9.1	mg/Kg	50	V-24	SW-846 8082A	10/23/11	10/29/11 0:18	PJG
Aroclor-1260 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:18	PJG
Aroclor-1262 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:18	PJG
Aroclor-1268 [1]	ND	9.1	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:18	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 0:18
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 0:18
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 0:18
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 0:18

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-101
Sampled: 10/21/2011 12:13

Sample ID: 11J0811-15

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.7	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:31	PJG
Aroclor-1221 [1]	ND	9.7	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:31	PJG
Aroclor-1232 [1]	ND	9.7	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:31	PJG
Aroclor-1242 [1]	ND	9.7	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:31	PJG
Aroclor-1248 [1]	ND	9.7	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:31	PJG
Aroclor-1254 [1]	ND	9.7	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:31	PJG
Aroclor-1260 [1]	ND	9.7	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:31	PJG
Aroclor-1262 [1]	ND	9.7	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:31	PJG
Aroclor-1268 [1]	ND	9.7	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:31	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 0:31
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 0:31
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 0:31
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 0:31

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-102
Sampled: 10/21/2011 12:15

Sample ID: 11J0811-16

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.9	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:44	PJG
Aroclor-1221 [1]	ND	8.9	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:44	PJG
Aroclor-1232 [1]	ND	8.9	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:44	PJG
Aroclor-1242 [1]	ND	8.9	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:44	PJG
Aroclor-1248 [1]	ND	8.9	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:44	PJG
Aroclor-1254 [1]	27	8.9	mg/Kg	50	V-24	SW-846 8082A	10/23/11	10/29/11 0:44	PJG
Aroclor-1260 [1]	ND	8.9	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:44	PJG
Aroclor-1262 [1]	ND	8.9	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:44	PJG
Aroclor-1268 [1]	ND	8.9	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:44	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 0:44
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 0:44
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 0:44
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 0:44

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBKD-103
Sampled: 10/21/2011 12:15

Sample ID: 11J0811-17

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.6	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:57	PJG
Aroclor-1221 [1]	ND	8.6	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:57	PJG
Aroclor-1232 [1]	ND	8.6	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:57	PJG
Aroclor-1242 [1]	ND	8.6	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:57	PJG
Aroclor-1248 [1]	ND	8.6	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:57	PJG
Aroclor-1254 [1]	27	8.6	mg/Kg	50	P-04, V-24	SW-846 8082A	10/23/11	10/29/11 0:57	PJG
Aroclor-1260 [1]	ND	8.6	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:57	PJG
Aroclor-1262 [1]	ND	8.6	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:57	PJG
Aroclor-1268 [1]	ND	8.6	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 0:57	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 0:57
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 0:57
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 0:57
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 0:57

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-104
Sampled: 10/21/2011 12:30

Sample ID: 11J0811-18

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:10	PJG
Aroclor-1221 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:10	PJG
Aroclor-1232 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:10	PJG
Aroclor-1242 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:10	PJG
Aroclor-1248 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:10	PJG
Aroclor-1254 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:10	PJG
Aroclor-1260 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:10	PJG
Aroclor-1262 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:10	PJG
Aroclor-1268 [1]	ND	0.99	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:10	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	109	30-150		10/29/11 1:10
Decachlorobiphenyl [2]	86.6	30-150		10/29/11 1:10
Tetrachloro-m-xylene [1]	97.6	30-150		10/29/11 1:10
Tetrachloro-m-xylene [2]	81.2	30-150		10/29/11 1:10

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-105
Sampled: 10/21/2011 12:40

Sample ID: 11J0811-19

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:23	PJG
Aroclor-1221 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:23	PJG
Aroclor-1232 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:23	PJG
Aroclor-1242 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:23	PJG
Aroclor-1248 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:23	PJG
Aroclor-1254 [1]	1.1	0.90	mg/Kg	5	V-24	SW-846 8082A	10/23/11	10/29/11 1:23	PJG
Aroclor-1260 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:23	PJG
Aroclor-1262 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:23	PJG
Aroclor-1268 [1]	ND	0.90	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:23	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	75.0	30-150		10/29/11 1:23
Decachlorobiphenyl [2]	60.9	30-150		10/29/11 1:23
Tetrachloro-m-xylene [1]	102	30-150		10/29/11 1:23
Tetrachloro-m-xylene [2]	53.2	30-150		10/29/11 1:23

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-106
Sampled: 10/21/2011 12:42

Sample ID: 11J0811-20

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:36	PJG
Aroclor-1221 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:36	PJG
Aroclor-1232 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:36	PJG
Aroclor-1242 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:36	PJG
Aroclor-1248 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:36	PJG
Aroclor-1254 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:36	PJG
Aroclor-1260 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:36	PJG
Aroclor-1262 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:36	PJG
Aroclor-1268 [1]	ND	0.93	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 1:36	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.5	30-150		10/29/11 1:36
Decachlorobiphenyl [2]	75.2	30-150		10/29/11 1:36
Tetrachloro-m-xylene [1]	110	30-150		10/29/11 1:36
Tetrachloro-m-xylene [2]	78.8	30-150		10/29/11 1:36

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-107
Sampled: 10/21/2011 12:55

Sample ID: 11J0811-21

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 2:42	PJG
Aroclor-1221 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 2:42	PJG
Aroclor-1232 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 2:42	PJG
Aroclor-1242 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 2:42	PJG
Aroclor-1248 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 2:42	PJG
Aroclor-1254 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 2:42	PJG
Aroclor-1260 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 2:42	PJG
Aroclor-1262 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 2:42	PJG
Aroclor-1268 [1]	ND	0.97	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 2:42	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	98.3	30-150		10/29/11 2:42
Decachlorobiphenyl [2]	79.9	30-150		10/29/11 2:42
Tetrachloro-m-xylene [1]	90.0	30-150		10/29/11 2:42
Tetrachloro-m-xylene [2]	73.6	30-150		10/29/11 2:42

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-108
Sampled: 10/21/2011 13:10

Sample ID: 11J0811-22

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 2:55	PJG
Aroclor-1221 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 2:55	PJG
Aroclor-1232 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 2:55	PJG
Aroclor-1242 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 2:55	PJG
Aroclor-1248 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 2:55	PJG
Aroclor-1254 [1]	35	9.5	mg/Kg	50	V-24	SW-846 8082A	10/23/11	10/29/11 2:55	PJG
Aroclor-1260 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 2:55	PJG
Aroclor-1262 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 2:55	PJG
Aroclor-1268 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 2:55	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 2:55
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 2:55
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 2:55
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 2:55

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-109
Sampled: 10/21/2011 13:20

Sample ID: 11J0811-23

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:08	PJG
Aroclor-1221 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:08	PJG
Aroclor-1232 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:08	PJG
Aroclor-1242 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:08	PJG
Aroclor-1248 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:08	PJG
Aroclor-1254 [1]	36	19	mg/Kg	100	V-24	SW-846 8082A	10/23/11	10/29/11 3:08	PJG
Aroclor-1260 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:08	PJG
Aroclor-1262 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:08	PJG
Aroclor-1268 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:08	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 3:08
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 3:08
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 3:08
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 3:08

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-110
Sampled: 10/21/2011 13:37

Sample ID: 11J0811-24

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:21	PJG
Aroclor-1221 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:21	PJG
Aroclor-1232 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:21	PJG
Aroclor-1242 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:21	PJG
Aroclor-1248 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:21	PJG
Aroclor-1254 [1]	52	18	mg/Kg	100	V-24	SW-846 8082A	10/23/11	10/29/11 3:21	PJG
Aroclor-1260 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:21	PJG
Aroclor-1262 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:21	PJG
Aroclor-1268 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:21	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 3:21
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 3:21
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 3:21
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 3:21

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-111
Sampled: 10/21/2011 13:45

Sample ID: 11J0811-25

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:34	PJG
Aroclor-1221 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:34	PJG
Aroclor-1232 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:34	PJG
Aroclor-1242 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:34	PJG
Aroclor-1248 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:34	PJG
Aroclor-1254 [1]	36	18	mg/Kg	100	V-24	SW-846 8082A	10/23/11	10/29/11 3:34	PJG
Aroclor-1260 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:34	PJG
Aroclor-1262 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:34	PJG
Aroclor-1268 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 3:34	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 3:34
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 3:34
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 3:34
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 3:34

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

Project Location: Amherst, MA | Sample Description: | Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-112 | Sampled: 10/21/2011 13:50

Sample ID: 11J0811-26

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 3:47	PJG
Aroclor-1221 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 3:47	PJG
Aroclor-1232 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 3:47	PJG
Aroclor-1242 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 3:47	PJG
Aroclor-1248 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 3:47	PJG
Aroclor-1254 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 3:47	PJG
Aroclor-1260 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 3:47	PJG
Aroclor-1262 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 3:47	PJG
Aroclor-1268 [1]	ND	9.5	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 3:47	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 3:47
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 3:47
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 3:47
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 3:47

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-113
Sampled: 10/21/2011 13:55

Sample ID: 11J0811-27

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 4:00	PJG
Aroclor-1221 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 4:00	PJG
Aroclor-1232 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 4:00	PJG
Aroclor-1242 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 4:00	PJG
Aroclor-1248 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 4:00	PJG
Aroclor-1254 [1]	13	9.0	mg/Kg	50	V-24	SW-846 8082A	10/23/11	10/29/11 4:00	PJG
Aroclor-1260 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 4:00	PJG
Aroclor-1262 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 4:00	PJG
Aroclor-1268 [1]	ND	9.0	mg/Kg	50		SW-846 8082A	10/23/11	10/29/11 4:00	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 4:00
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 4:00
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 4:00
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 4:00

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-114
Sampled: 10/21/2011 14:10

Sample ID: 11J0811-28

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 4:13	PJG
Aroclor-1221 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 4:13	PJG
Aroclor-1232 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 4:13	PJG
Aroclor-1242 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 4:13	PJG
Aroclor-1248 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 4:13	PJG
Aroclor-1254 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 4:13	PJG
Aroclor-1260 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 4:13	PJG
Aroclor-1262 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 4:13	PJG
Aroclor-1268 [1]	ND	0.91	mg/Kg	5		SW-846 8082A	10/23/11	10/29/11 4:13	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	122	30-150		10/29/11 4:13
Decachlorobiphenyl [2]	105	30-150		10/29/11 4:13
Tetrachloro-m-xylene [1]	107	30-150		10/29/11 4:13
Tetrachloro-m-xylene [2]	77.2	30-150		10/29/11 4:13

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

Project Location: Amherst, MA
Sample Description:
Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-115
Sampled: 10/21/2011 14:17

Sample ID: 11J0811-29

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:26	PJG
Aroclor-1221 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:26	PJG
Aroclor-1232 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:26	PJG
Aroclor-1242 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:26	PJG
Aroclor-1248 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:26	PJG
Aroclor-1254 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:26	PJG
Aroclor-1260 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:26	PJG
Aroclor-1262 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:26	PJG
Aroclor-1268 [1]	ND	18	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:26	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 4:26
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 4:26
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 4:26
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 4:26

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

Project Location: Amherst, MA | Sample Description: | Work Order: 11J0811

Date Received: 10/21/2011

Field Sample #: GH-CBK-116 | Sampled: 10/21/2011 14:23

Sample ID: 11J0811-30

Sample Matrix: Caulk

Sample Flags: DL-03

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:39	PJG
Aroclor-1221 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:39	PJG
Aroclor-1232 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:39	PJG
Aroclor-1242 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:39	PJG
Aroclor-1248 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:39	PJG
Aroclor-1254 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:39	PJG
Aroclor-1260 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:39	PJG
Aroclor-1262 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:39	PJG
Aroclor-1268 [1]	ND	19	mg/Kg	100		SW-846 8082A	10/23/11	10/29/11 4:39	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/29/11 4:39
Decachlorobiphenyl [2]	*	30-150	S-01	10/29/11 4:39
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/29/11 4:39
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/29/11 4:39

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 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0811-11 [GH-CBK-097]	B039698	0.573	10.0	10/23/11
11J0811-12 [GH-CBK-098]	B039698	0.542	10.0	10/23/11
11J0811-13 [GH-CBK-099]	B039698	0.526	10.0	10/23/11
11J0811-14 [GH-CBK-100]	B039698	0.547	10.0	10/23/11
11J0811-15 [GH-CBK-101]	B039698	0.513	10.0	10/23/11
11J0811-16 [GH-CBK-102]	B039698	0.561	10.0	10/23/11
11J0811-17 [GH-CBKD-103]	B039698	0.579	10.0	10/23/11
11J0811-18 [GH-CBK-104]	B039698	0.505	10.0	10/23/11
11J0811-19 [GH-CBK-105]	B039698	0.556	10.0	10/23/11
11J0811-20 [GH-CBK-106]	B039698	0.540	10.0	10/23/11
11J0811-21 [GH-CBK-107]	B039698	0.516	10.0	10/23/11
11J0811-22 [GH-CBK-108]	B039698	0.525	10.0	10/23/11
11J0811-23 [GH-CBK-109]	B039698	0.531	10.0	10/23/11
11J0811-24 [GH-CBK-110]	B039698	0.571	10.0	10/23/11
11J0811-25 [GH-CBK-111]	B039698	0.559	10.0	10/23/11
11J0811-26 [GH-CBK-112]	B039698	0.528	10.0	10/23/11
11J0811-27 [GH-CBK-113]	B039698	0.556	10.0	10/23/11
11J0811-28 [GH-CBK-114]	B039698	0.551	10.0	10/23/11
11J0811-29 [GH-CBK-115]	B039698	0.558	10.0	10/23/11
11J0811-30 [GH-CBK-116]	B039698	0.526	10.0	10/23/11

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0811-01 [GH-CBK-087]	B039699	0.558	10.0	10/23/11
11J0811-02 [GH-CBK-088]	B039699	0.563	10.0	10/23/11
11J0811-03 [GH-CBK-089]	B039699	0.566	10.0	10/23/11
11J0811-04 [GH-CBK-090]	B039699	0.544	10.0	10/23/11
11J0811-05 [GH-CBK-091]	B039699	0.552	10.0	10/23/11
11J0811-06 [GH-CBK-092]	B039699	0.554	10.0	10/23/11
11J0811-07 [GH-CBK-093]	B039699	0.575	10.0	10/23/11
11J0811-08 [GH-CBK-094]	B039699	0.580	10.0	10/23/11
11J0811-09 [GH-CBK-095]	B039699	0.536	10.0	10/23/11
11J0811-10 [GH-CBK-096]	B039699	0.509	10.0	10/23/11

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

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039698 - SW-846 3540C										
Blank (B039698-BLK1)				Prepared: 10/23/11 Analyzed: 10/28/11						
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	*3.91*		mg/Kg	4.00		97.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.32*		mg/Kg	4.00		83.0	30-150			
Surrogate: Tetrachloro-m-xylene	*3.41*		mg/Kg	4.00		85.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.19*		mg/Kg	4.00		79.8	30-150			
LCS (B039698-BS1)				Prepared: 10/23/11 Analyzed: 10/28/11						
Aroclor-1016	3.3	0.20	mg/Kg	4.00		83.1	40-140			
Aroclor-1016 [2C]	3.1	0.20	mg/Kg	4.00		77.5	40-140			
Aroclor-1260	2.9	0.20	mg/Kg	4.00		72.3	40-140			
Aroclor-1260 [2C]	2.7	0.20	mg/Kg	4.00		67.8	40-140			
Surrogate: Decachlorobiphenyl	*3.36*		mg/Kg	4.00		83.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.84*		mg/Kg	4.00		71.0	30-150			
Surrogate: Tetrachloro-m-xylene	*3.56*		mg/Kg	4.00		88.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.29*		mg/Kg	4.00		82.3	30-150			
LCS Dup (B039698-BSD1)				Prepared: 10/23/11 Analyzed: 10/28/11						
Aroclor-1016	3.6	0.20	mg/Kg	4.00		89.8	40-140	7.74	30	
Aroclor-1016 [2C]	3.3	0.20	mg/Kg	4.00		82.9	40-140	6.73	30	
Aroclor-1260	3.6	0.20	mg/Kg	4.00		88.9	40-140	20.5	30	
Aroclor-1260 [2C]	3.3	0.20	mg/Kg	4.00		83.7	40-140	21.1	30	
Surrogate: Decachlorobiphenyl	*4.37*		mg/Kg	4.00		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.69*		mg/Kg	4.00		92.4	30-150			
Surrogate: Tetrachloro-m-xylene	*3.60*		mg/Kg	4.00		89.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.31*		mg/Kg	4.00		82.8	30-150			

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

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039699 - SW-846 3540C										
Blank (B039699-BLK1)				Prepared: 10/23/11 Analyzed: 10/28/11						
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	*4.03*		mg/Kg	4.00		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.40*		mg/Kg	4.00		84.9	30-150			
Surrogate: Tetrachloro-m-xylene	*3.47*		mg/Kg	4.00		86.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.26*		mg/Kg	4.00		81.4	30-150			
LCS (B039699-BS1)				Prepared: 10/23/11 Analyzed: 10/28/11						
Aroclor-1016	3.4	0.20	mg/Kg	4.00		84.9	40-140			
Aroclor-1016 [2C]	3.2	0.20	mg/Kg	4.00		79.1	40-140			
Aroclor-1260	3.3	0.20	mg/Kg	4.00		82.7	40-140			
Aroclor-1260 [2C]	3.1	0.20	mg/Kg	4.00		78.2	40-140			
Surrogate: Decachlorobiphenyl	*3.98*		mg/Kg	4.00		99.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.38*		mg/Kg	4.00		84.4	30-150			
Surrogate: Tetrachloro-m-xylene	*3.40*		mg/Kg	4.00		84.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.15*		mg/Kg	4.00		78.6	30-150			
LCS Dup (B039699-BSD1)				Prepared: 10/23/11 Analyzed: 10/28/11						
Aroclor-1016	3.3	0.20	mg/Kg	4.00		83.1	40-140	2.18	30	
Aroclor-1016 [2C]	3.1	0.20	mg/Kg	4.00		77.4	40-140	2.21	30	
Aroclor-1260	3.3	0.20	mg/Kg	4.00		81.3	40-140	1.75	30	
Aroclor-1260 [2C]	3.1	0.20	mg/Kg	4.00		77.0	40-140	1.65	30	
Surrogate: Decachlorobiphenyl	*3.90*		mg/Kg	4.00		97.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.31*		mg/Kg	4.00		82.7	30-150			
Surrogate: Tetrachloro-m-xylene	*3.35*		mg/Kg	4.00		83.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.13*		mg/Kg	4.00		78.3	30-150			

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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.
DL-03	Elevated detection limit due to matrix.
P-04	Due to continuing calibration non-conformance on the confirmatory detector, the lower of two results was reported.
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.
V-24	Continuing calibration verification was outside of control limits on the confirmation column, but within control limits on the primary column. All sample results are reported from the column within control criteria.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
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

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East longmeadow, MA 01028

Page 1 of 1

11J0810 1

Company Name: Woodard & Curran
Address: 35 NE Business Center Suite 180
Andover MA 01810
Attention: George Franklin
Project Location: Amherst Mass
Sampled By: George Franklin / Kim Rinaldi

Telephone: 978 557 8150
Project # 224824
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: gfranklin@wandc.com krinaldi@wandc.com
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	PCBs (8082)	# of Containers	** Preservation	***Container Code
01	GH-CBK-087	10/21/11	0935		X	O	U	X			
02	GH-CBK-088	10/21/11	0945		X	O	U	X			
03	GH-CBK-089	10/21/11	0935		X	O	U	X			
04	GH-CBK-090	10/21/11	0955		X	O	U	X			
05	GH-CBK-091	10/21/11	0940		X	O	U	X			
06	GH-CBK-092	10/21/11	1047		X	O	U	X			
07	GH-CBK-093	10/21/11	1055		X	O	U	X			
08	GH-CBK-094	10/21/11	1100		X	O	U	X			
09	GH-CBK-095	10/21/11	1110		X	O	U	X			
10	GH-CBK-096	10/21/11	1112		X	O	U	X			

Comments: PCBs via USEPA 8082 w/ Soxhlet Extraction (3540C)
All samples are potential source material

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 Caulk

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:
K. Rinaldi	10/21/11 1655
Received by: (signature) 4.1°C Paula Blatchford	Date/Time: 1655 10/21/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5pm

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
Accredited Laboratory AIHA 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.

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Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Page 2 of 4

11J0810 1

Company Name: Woodard & Curran
Address: 35 NE Business Ctr Suite 180 Andover MA
Attention: George Franklin
Project Location: Amherst MA
Sampled By: George Franklin / Kim Rinard

Telephone: 978-557-8150
Project #: 224824
Client PO#

DATA DELIVERY (check all that apply)
O FAX ✓ EMAIL O WEBSITE
Fax # gfranklin@wnc.com jhowes
Email: ↓
Format: ✓ PDF ✓ EXCEL O GIS
O OTHER
O "Enhanced Data Package"

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

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	PCBs (8082)											# of Containers
								I											** Preservation
								I											
								A											***Container Code
11	GH-CBK-097	10/21/11	1115		X	O	U	X											
12	GH-CBK-098	10/21/11	1125		X	O	U	X											
13	GH-CBK-099	10/21/11	1151		X	O	U	X											
14	GH-CBK-100	10/21/11	1156		X	O	U	X											
15	GH-CBK-101	10/21/11	1213		X	O	U	X											
16	GH-CBK-102	10/21/11	1215		X	O	U	X											
17	GH-CBK-103	10/21/11	1215		X	O	U	X											
18	GH-CBK-104	10/21/11	1230		X	O	U	X											
19	GH-CBK-105	10/21/11	1240		X	O	U	X											
20	GH-CBK-106	10/21/11	1242		X	O	U	X											

ANALYSIS REQUESTED

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 Cooly

Comments: PCBs via USEPA (8082) with Soxhlet Extraction
All Samples Potential Source Material

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:
K. Rinard	10/21/11 1655
Received by: (signature)	Date/Time:
Paula Blakeborough	10/21/11 1655
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5

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 Analytical Certification Form Required
O RCP Analysis Certification Form Required
O MA State DW Form Required PWSID # _____

ACCREDITED IN ACCORDANCE WITH nelac
AIHA Accredited Laboratory Environmental Lead & Industrial Hygiene

NELAC & AIHA Certified
WBE/DBE Certified

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www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Page 3 of 4

11J0810I

Company Name: Woodard & Curran
Address: 35 NE Business Center Suite 180 Amherst MA 01810
Attention: George Franklin
Project Location: Amherst MA
Sampled By: George Franklin / Kim Rinard

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

Telephone: 978 557 8150
Project # 224824
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email:
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	PCBs 8082											# of Containers / ** Preservation / ***Container Code
21	GH-CBK-107	10/21/11	1255		X	O	U	X											
22	GH-CBK-108	↓	1310		X	O	U	X											
23	GH-CBK-109	↓	1320		X	O	U	X											
24	GH-CBK-110	10/21/11	1337		X	O	U	X											
25	GH-CBK-111	10/21/11	1345		X	O	U	X											
26	GH-CBK-112	10/21/11	1350		X	O	U	X											
27	GH-CBK-113	10/21/11	1355		X	O	U	X											
28	GH-CBK-114	10/21/11	1410		X	O	U	X											
29	GH-CBK-115	10/21/11	1417		X	O	U	X											
30	GH-CBK-116	10/21/11	1423		X	O	U	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 CAULK

Comments: PCBs via USEPA 8082 w/ Soxhlet Extraction (3540C)
All Samples Are Potential Source Material

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:
K Rinard	10/21/11 1655
Received by: (signature) 4.1°C Paula Blakeborough	Date/Time: 1655 10/21/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5

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 See attached list for details

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.

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Sample Receipt Checklist

CLIENT NAME: Woodard RECEIVED BY: MLK DATE: 10/21/11

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) [X]

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 4.1°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: 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	4
250 mL Amber (8oz amber)	26	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	
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

11J0811-01 GH-CBK-087

Analyte	Results		%RPD
Aroclor-1254	2.6	2.564874	1.36
Surrogates			
Decachlorobiphenyl	3.36	2.678495	22.6
Tetrachloro-m-xylene	2.62	2.038799	25

11J0811-04 GH-CBK-090

Analyte	Results		%RPD
Aroclor-1254	4.4	4.007812	9.33
Surrogates			
Decachlorobiphenyl	4.06	3.267003	21.6
Tetrachloro-m-xylene	3.17	2.631066	18.6

11J0811-05 GH-CBK-091

Analyte	Results		%RPD
Aroclor-1254 [2C]	8.2	7.82337	4.7
Surrogates			
Decachlorobiphenyl	4.02	3.317844	19.1
Tetrachloro-m-xylene	3.36	2.523189	28.4

11J0811-06 GH-CBK-092

Analyte	Results		%RPD
Aroclor-1254	39	35.04422	10.7

11J0811-08 GH-CBK-094

Analyte	Results		%RPD
Aroclor-1254 [2C]	3.5	3.325948	5.1
Surrogates			
Tetrachloro-m-xylene	2.76	2.10681	26.8
Decachlorobiphenyl	3.18	2.614741	19.5

11J0811-10 GH-CBK-096

Analyte	Results		%RPD
Aroclor-1254	17	12.11591	33.5

11J0811-12 GH-CBK-098

Analyte	Results		%RPD
Aroclor-1254	75	64.59409	14.9

11J0811-13 GH-CBK-099

Analyte	Results		%RPD
Aroclor-1254	200	180.9163	10

11J0811-14 GH-CBK-100

Analyte	Results		%RPD
Aroclor-1254	60	54.70384	9.23

11J0811-16 GH-CBK-102

Analyte	Results		%RPD
Aroclor-1254	27	25.0303	7.57

11J0811-17 GH-CBKD-103

Analyte	Results		%RPD
Aroclor-1254	27	28.72366	6.19

11J0811-18 GH-CBK-104

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	4.32	3.428218	23
Tetrachloro-m-xylene	3.86	3.214455	18.3

11J0811-19 GH-CBK-105

Analyte		Results	%RPD
Aroclor-1254	1.1	0.9576439	13.8
Surrogates			
Decachlorobiphenyl	2.70	2.189389	20.9
Tetrachloro-m-xylene	3.66	1.914568	62.6

11J0811-20 GH-CBK-106

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	3.54	2.783889	23.9
Tetrachloro-m-xylene	4.07	2.917037	33

11J0811-21 GH-CBK-107

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	3.49	2.851744	20.1
Decachlorobiphenyl	3.81	3.09593	20.7

11J0811-22 GH-CBK-108

Analyte		Results	%RPD
Aroclor-1254	35	30.80762	12.7

11J0811-23 GH-CBK-109

Analyte		Results	%RPD
Aroclor-1254	36	29.64595	19.4

11J0811-24 GH-CBK-110

Analyte		Results	%RPD
Aroclor-1254	52	44.11033	16.4

11J0811-25 GH-CBK-111

Analyte		Results	%RPD
Aroclor-1254	36	27.00179	28.6

11J0811-27 GH-CBK-113

Analyte		Results	%RPD
Aroclor-1254	13	12.47212	4.14

11J0811-28 GH-CBK-114

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	3.88	2.802269	32.3
Decachlorobiphenyl	4.43	3.823412	14.7

B039698-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	3.91	3.31806	16.4
Tetrachloro-m-xylene	3.41	3.19286	6.58

B039698-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	3.3	3.09946	6.27
Aroclor-1260	2.9	2.71084	6.74
Surrogates			
Tetrachloro-m-xylene	3.56	3.29294	7.79
Decachlorobiphenyl	3.36	2.83896	16.8

B039698-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	3.6	3.31522	8.24

Aroclor-1260	3.6	3.34998	7.19
Surrogates			
Tetrachloro-m-xylene	3.60	3.31046	8.38
Decachlorobiphenyl	4.37	3.69426	16.8

B039699-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	4.03	3.39754	17
Tetrachloro-m-xylene	3.47	3.25598	6.36

B039699-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	3.4	3.16506	7.16
Aroclor-1260	3.3	3.12996	5.29
Surrogates			
Decachlorobiphenyl	3.98	3.37546	16.4
Tetrachloro-m-xylene	3.40	3.14576	7.77

B039699-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	3.3	3.0959	6.38
Aroclor-1260	3.3	3.07876	6.94
Surrogates			
Tetrachloro-m-xylene	3.35	3.13358	6.68
Decachlorobiphenyl	3.90	3.30662	16.5

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

November 11, 2011

George Franklin
Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810

Project Location: UMass
Client Job Number:
Project Number: 224166
Laboratory Work Order Number: 11K0230

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

Sincerely,

Meghan E. Kelley
Project Manager

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

Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810
ATTN: George Franklin

REPORT DATE: 11/11/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224166

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K0230

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

PROJECT LOCATION: UMass

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GH-CBK-117	11K0230-01	Caulk		SW-846 8082A	
GH-CBK-118	11K0230-02	Caulk		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

SW-846 8082A

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]

11K0230-02[GH-CBK-118]

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: UMass | Sample Description: | Work Order: 11K0230

Date Received: 11/8/2011

Field Sample #: GH-CBK-117 | Sampled: 11/7/2011 13:27

Sample ID: 11K0230-01

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	11/9/11	11/11/11 15:08	MJC
Aroclor-1221 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	11/9/11	11/11/11 15:08	MJC
Aroclor-1232 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	11/9/11	11/11/11 15:08	MJC
Aroclor-1242 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	11/9/11	11/11/11 15:08	MJC
Aroclor-1248 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	11/9/11	11/11/11 15:08	MJC
Aroclor-1254 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	11/9/11	11/11/11 15:08	MJC
Aroclor-1260 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	11/9/11	11/11/11 15:08	MJC
Aroclor-1262 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	11/9/11	11/11/11 15:08	MJC
Aroclor-1268 [1]	ND	0.88	mg/Kg	5		SW-846 8082A	11/9/11	11/11/11 15:08	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.9	30-150		11/11/11 15:08
Decachlorobiphenyl [2]	77.8	30-150		11/11/11 15:08
Tetrachloro-m-xylene [1]	91.2	30-150		11/11/11 15:08
Tetrachloro-m-xylene [2]	60.8	30-150		11/11/11 15:08

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Project Location: UMass | Sample Description: | Work Order: 11K0230

Date Received: 11/8/2011

Field Sample #: GH-CBK-118 | Sampled: 11/7/2011 13:40

Sample ID: 11K0230-02

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.4	mg/Kg	50		SW-846 8082A	11/9/11	11/11/11 15:47	MJC
Aroclor-1221 [1]	ND	8.4	mg/Kg	50		SW-846 8082A	11/9/11	11/11/11 15:47	MJC
Aroclor-1232 [1]	ND	8.4	mg/Kg	50		SW-846 8082A	11/9/11	11/11/11 15:47	MJC
Aroclor-1242 [1]	ND	8.4	mg/Kg	50		SW-846 8082A	11/9/11	11/11/11 15:47	MJC
Aroclor-1248 [1]	ND	8.4	mg/Kg	50		SW-846 8082A	11/9/11	11/11/11 15:47	MJC
Aroclor-1254 [1]	30	8.4	mg/Kg	50		SW-846 8082A	11/9/11	11/11/11 15:47	MJC
Aroclor-1260 [1]	ND	8.4	mg/Kg	50		SW-846 8082A	11/9/11	11/11/11 15:47	MJC
Aroclor-1262 [1]	ND	8.4	mg/Kg	50		SW-846 8082A	11/9/11	11/11/11 15:47	MJC
Aroclor-1268 [1]	ND	8.4	mg/Kg	50		SW-846 8082A	11/9/11	11/11/11 15:47	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	11/11/11 15:47
Decachlorobiphenyl [2]	*	30-150	S-01	11/11/11 15:47
Tetrachloro-m-xylene [1]	*	30-150	S-01	11/11/11 15:47
Tetrachloro-m-xylene [2]	*	30-150	S-01	11/11/11 15:47

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11K0230-01 [GH-CBK-117]	B040701	0.571	10.0	11/09/11
11K0230-02 [GH-CBK-118]	B040701	0.594	10.0	11/09/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B040701 - SW-846 3540C										
Blank (B040701-BLK1)				Prepared: 11/09/11 Analyzed: 11/11/11						
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	*5.51*		mg/Kg	4.00		138	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.24*		mg/Kg	4.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	*3.86*		mg/Kg	4.00		96.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.67*		mg/Kg	4.00		91.8	30-150			
LCS (B040701-BS1)				Prepared: 11/09/11 Analyzed: 11/11/11						
Aroclor-1016	3.7	0.20	mg/Kg	4.00		91.8	40-140			
Aroclor-1016 [2C]	3.5	0.20	mg/Kg	4.00		87.2	40-140			
Aroclor-1260	4.1	0.20	mg/Kg	4.00		102	40-140			
Aroclor-1260 [2C]	3.8	0.20	mg/Kg	4.00		94.8	40-140			
Surrogate: Decachlorobiphenyl	*5.53*		mg/Kg	4.00		138	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.20*		mg/Kg	4.00		105	30-150			
Surrogate: Tetrachloro-m-xylene	*3.83*		mg/Kg	4.00		95.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.68*		mg/Kg	4.00		92.1	30-150			
LCS Dup (B040701-BSD1)				Prepared: 11/09/11 Analyzed: 11/11/11						
Aroclor-1016	3.5	0.20	mg/Kg	4.00		88.5	40-140	3.70	30	
Aroclor-1016 [2C]	3.4	0.20	mg/Kg	4.00		85.0	40-140	2.53	30	
Aroclor-1260	4.1	0.20	mg/Kg	4.00		102	40-140	0.933	30	
Aroclor-1260 [2C]	3.9	0.20	mg/Kg	4.00		97.0	40-140	2.36	30	
Surrogate: Decachlorobiphenyl	*5.50*		mg/Kg	4.00		137	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.24*		mg/Kg	4.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	*3.35*		mg/Kg	4.00		83.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.25*		mg/Kg	4.00		81.3	30-150			

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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.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
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

CHAIN OF CUSTODY RECORD

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www.contestlabs.com
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East longmeadow, MA 01028

Page 1 of 1

11K0830

Company Name: Woodard & Curran
Address: 35 NE Business Ctr Suite 180
Andover MA
Attention: George Franklin
Project Location: UMass Gregson
Sampled By: George Franklin

Telephone: 978 557 8150
Project #: 224024
Client PO#:

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

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

| 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 | PCBs (8082) | | |

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: Woodard and Curran RECEIVED BY: C.C-S DATE: 11/8/11

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 ☑ 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 3.3 °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	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	
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 20..

11K0230-01 GH-CBK-117

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	3.20	2.128196	40.2
Decachlorobiphenyl	3.32	2.724081	19.7

11K0230-02 GH-CBK-118

Analyte	Results		%RPD
Aroclor-1254	30	29.68519	1.05

B040701-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	3.86	3.67226	4.98
Decachlorobiphenyl	5.51	4.24296	26

B040701-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	4.1	3.79052	7.84
Aroclor-1016	3.7	3.48856	5.88
Surrogates			
Tetrachloro-m-xylene	3.83	3.68254	3.93
Decachlorobiphenyl	5.53	4.20246	27.3

B040701-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1260	4.1	3.88086	5.49
Aroclor-1016	3.5	3.4015	2.85
Surrogates			
Tetrachloro-m-xylene	3.35	3.25324	2.93
Decachlorobiphenyl	5.50	4.23702	25.9

UMASS GRAYSON/FIELD - PROJECT SUMMARY

ConTest Analytical Laboratory Job Numbers: 11H0428, 11H0979, 11J0811, & 11K0230

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 3.3, 4.1, and 5.3 degrees Celsius. No qualifications were applied.

PCBs:

All polychlorinated biphenyl compound (PCB) samples were extracted, and analyzed within technical holding times. No qualifications were applied.

All PCB surrogates met acceptance criteria (30-150%) or were diluted out with the following exceptions:

LAB ID	SAMPLE ID	TCX (%/%)	DCB (%/%)	QUALIFIER
11H0428-03	GH-CBK-003	211/169	OK/OK	J, Aroclor-1254
11H0428-09	GH-CBK-009	196/280	OK/OK	J, Aroclor-1254
11H0428-12	GH-CBK-012	358/459	OK/OK	None, sample ND

TCX = tetrachloro-m-xylene DCB = decachlorobiphenyl

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications were applied.

The PCB field blank samples GH-CBKQ-046 (11H0428-46) and GH-CBCQ-087 (11H0979-24) were ND for all target analytes. No qualifications were applied.

No PCB matrix spike/matrix spike duplicate (MS/MSD) was performed on a sample from these analytical packages. No qualifications were applied.

The PCB laboratory control samples (LCS) and/or laboratory control sample duplicates (LCSD) met acceptance criteria. No qualifications were applied.

PCB field duplicate samples GH-CBK-007 (11H0428-07)/GH-CBKD-008 (11H0428-08), GH-CBK-039 (11H0428-39)/GH-CBKD-040 (11J0428-40), GH-CBC-080 (11H0979-20)/GH-CBCD-082 (11H0979-22), and GH-CBK-102 (11J0811-16)/GH-CBKD-103 (11J0811-17) met acceptance criteria. No qualifications were applied.

The relative percent difference (RPD) between the column results for all detected Aroclors met acceptance criteria with the following exceptions:

LAB ID	SAMPLE ID	PCB	RPD	QUALIFIER
11H0428-18	GH-CBK-018	1254	27.2	J
11H0428-33	GH-CBK-033	1254	30.1	J
11H0428-43	GH-CBK-043	1254	27.7	J
11J0811-10	GH-CBK-096	1254	33.5	J
11J0811-25	GH-CBK-111	1254	28.6	J

Several samples were analyzed at a dilution due to the high concentration of Aroclors present in the sample and/or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilution performed.

UMASS GRAYSON/FIELD - PROJECT SUMMARY

ConTest Analytical Laboratory Job Numbers: 11H0428, 11H0979, 11J0811, & 11K0230

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

Gloria J. Switalski:
President

Date: 11/14/2011

Project # 224824

APPENDIX D: PERIMETER AIR MONITORING PLAN

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 are caused 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 building materials such as the stucco ceiling.

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.

If applicable, the 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 Grayson and Field Houses 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.