



September 13, 2012

Ms. Kimberly Tisa  
PCB Coordinator  
U.S. Environmental Protection Agency  
5 Post Office Square – Suite 100 (OSRR07-2)  
Boston, Massachusetts 02109-3912

Re: Initial Post-Remediation Monitoring Results  
PCB Remediation - Dubois Library  
University of Massachusetts - Amherst

Dear Ms. Tisa:

This letter has been prepared on behalf of the University of Massachusetts (UMass) based on the U.S. Environmental Protection Agency's (EPA's) April 8, 2010 Dubois Library PCB Cleanup and Disposal Approval under 40 CFR 761.61(c), 761.62, and 761.79(h) for the above mentioned site. This letter presents the results from the initial post-remediation sampling pursuant to Condition 12b(iii) of the above-mentioned Approval.

### **Remediation Activities Summary**

As indicated in previous submittals, the PCB remediation is being conducted as part of an elevator replacement project that was conducted between 2010 and 2012 (activities were recently completed in August 2012). Given this timing, annual status reports documenting the completed PCB remediation components of the work were prepared and submitted to EPA (October 2010 and November 2011).

In summary, the following activities have been completed:

- Removal and off-site disposal of all PCB-containing caulking located within the elevator lobbies (approximately 1,600 linear feet);
- Off-site disposal, as PCB remediation wastes, of plaster overlays on in-fills and associated underlying masonry block (if PCBs detected > 1 ppm) for those shafts scheduled for removal;
- Encapsulation of all plaster surfaces (unused shaft and transom locations) scheduled to remain in place and concrete surfaces along the return to the right angle of the concrete (i.e., to the first 90-degree corner or approximately 2 inches for structural concrete and 12 inches for ceiling concrete) with two coats of an elastomeric acrylic coating (Sikagard 550W); this coating was subsequently covered by either the final interior wall coating for the lobby and/or the metal frame associated with the new elevator doors; (estimated area = 2,000 square feet); and
- Final application of an acrylic latex paint to all surfaces scheduled to remain in place throughout the lobby area.

### **Initial Post-Remediation Sampling**

Following completion of remediation activities included in the Notification, initial post-remediation sampling was conducted on August 28, 2012. The post-remediation sampling consisted of the collection of indoor air samples and verification wipe samples as specified under Condition 12b of the Approval. A description of the samples collected, the analytical results, and proposed actions (where applicable) is provided below.



## Surface Wipe Sampling

During the performance of the work, several rounds of surface wipe samples have been collected to assess the “encapsulated” masonry surfaces. A summary of these results is presented below.

As part of the Remediation Plan development, surface wipe samples were collected from existing painted masonry surfaces on the 4<sup>th</sup>, 15<sup>th</sup>, and 18<sup>th</sup> floors adjacent to previously collected bulk characterization samples in areas with PCB concentrations > 1 ppm. A total of six wipe samples were collected on January 15, 2010 from painted structural concrete and plaster surfaces at distances of between 6 and 12 inches from the corner of the structural concrete or caulked joints. Analytical results from five of the six samples indicated that PCBs were not present at concentrations above the laboratory’s minimum reporting limit of 0.5 µg/100cm<sup>2</sup>. Analytical results from the sixth sample indicated that PCBs were reported at a concentration of 0.5 µg/100cm<sup>2</sup> (the minimum laboratory reporting limit).

In order to evaluate the effectiveness of the initial application of the encapsulating coating, wipe samples were collected from surfaces coated with the Sikagard 550W product. A total of four wipe samples were collected on August 17, 2010 from each of the main categories of building surfaces. One sample was collected from each of the following surfaces: plaster in-fill remaining in place; structural concrete column, transom plaster, and concrete ceiling. Analytical results indicated that the concentration of PCBs were below the laboratory’s minimum reporting limit in all samples collected (< 0.5 µg/100cm<sup>2</sup>).

In accordance with Condition 12b(ii) and upon completion of all the remediation activities, eight verification wipe samples were collected on August 28, 2012 as part of the initial post-remediation sampling. These samples were collected following application of the final coat of latex paint to all concrete surfaces located within the elevator lobbies. Wipe samples were collected in accordance with the standard wipe test as specified in 40 CFR 761.123 over a 100 cm<sup>2</sup> area. All wipes samples were transported to ConTest Analytical Laboratory, located in East Longmeadow, Mass under the standard chain of custody procedures. All wipe samples were extracted via the 3540C (Soxhlet) extraction and analyzed for PCBs using the USEPA Method 8082.

During the wipe sampling process, visual inspection confirmed that all areas were coated as required by the PCB Remediation Plan. Areas formerly in direct contact with the removed PCB caulking were not visible as a result of the new sheet metal cladding installed at the perimeter of each elevator shaft opening.

Analytical results from the wipe samples indicated the following:

- CMU Block In-Fill Materials - Three wipe samples were collected from encapsulated masonry block in-fills on the 4<sup>th</sup>, 15<sup>th</sup>, and 24<sup>th</sup> floors. Wipe samples were collected from distances of 1.5 or 6 inches from the former caulked joints. Analytical results indicated that PCBs were non-detect (< 0.20 ug/100cm<sup>2</sup>) in all three samples;
- Transom Plaster – One sample was collected from the encapsulated plaster transom on the 3<sup>rd</sup> floor. Analytical results indicated that PCBs were present at a concentration of 0.72 ug/100cm<sup>2</sup>;
- Ceiling – One sample was collected from the encapsulated ceiling on the 15<sup>th</sup> floor. Analytical results indicated that PCBs were non-detect (< 0.20 ug/100 cm<sup>2</sup>); and
- Structural Concrete Columns – Three wipe samples were collected from encapsulated structural concrete materials. Two wipe samples were collected from the parallel face of the structural concrete (facing the lobby) at a distance of 10 inches from the former caulked joints. Analytical results from these two samples indicated that PCBs were non-detected (< 0.20 ug/100cm<sup>2</sup>). One sample was collected at a distance of two inches from the former caulked joint along the perpendicular face of the structural concrete (i.e., within the elevator recess).



Analytical results indicated that PCBs were present at a concentration of 4.6 ug/100cm<sup>2</sup> in this sample (sample DL-4E0-VWC-100 collected from the fourth floor).

A summary of the wipe sample results is presented on Table 1 with the complete laboratory reports provided in Attachment 1. Of the samples collected, analytical results from only one sample (sample DL-4E0-VWC-100 collected from the encapsulated structural concrete on the perpendicular face to the lobby) indicated that PCBs were above the target concentration of 1 ug/100cm<sup>2</sup>.

### Indoor Air Sampling

As part of the Remediation Plan development, indoor air samples were collected from the 4<sup>th</sup>, 15<sup>th</sup>, and 18<sup>th</sup> floor elevator lobbies on January 15, 2010 to evaluate potential PCB concentrations in indoor air with source material (caulking) present in the elevator lobbies. Air samples were collected in accordance with USEPA Compendium Method TO-10A *"Determination of Pesticides and Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)"* and submitted for laboratory analysis of PCB homologs.

Analytical results from the indoor air sampling indicated that the total PCB homolog concentrations were 0.629, 0.442, and 0.580 micrograms per cubic meter (ug/m<sup>3</sup>) on the 4<sup>th</sup>, 15<sup>th</sup>, and 18<sup>th</sup> floors, respectively.

In accordance with Condition 12b(i), three indoor air samples were collected on August 28, 2012 as part of the initial post-remediation sampling and submitted for PCB analysis (Method TO-10A). At each of the sample locations a low volume PUF cartridge was connected to a personal air pump (SKC AIRCHEK Sampler) with flexible tubing. The cartridge was positioned between 3 and 5 feet above the floor using a telescoping tubing in the approximate center of the selected lobbies. Placards were placed on the sample apparatus providing UMass EH&S contact information for questions regarding the sampling (no inquiries were made during sample collection).

Samples were collected at a rate of 2.6 liter per minute (L/min) for four hours. The flow rates were set by the equipment rental supply company prior to delivery and verified in the field by Woodard & Curran personnel using a BIOS digital flow rate calibrator. Atmospheric information (ambient temperatures and barometric pressures) was collected from the UMass weather station at five minute intervals throughout sample collection. Pumps and flow rates were monitored periodically throughout the sample collection period and observations recorded. At the end of the required sample interval, the pumps were shut off and the cartridge placed in aluminum foil, labeled, and placed on ice for delivery to the analytical laboratory (ConTest Laboratory).

Analytical results indicated that PCBs were present at concentrations of 0.690, 0.977, and 1.146 ug/m<sup>3</sup> in the three samples collected within the lobby areas. Analytical results from the outdoor air sample collected outside of the library indicated that PCBs were non-detect (< 0.005 ug). A summary of the analytical results is presented on Table 2 with the complete laboratory reports provided in Attachment 2.

The most recent data indicates that concentrations of PCBs continue to be detected in indoor air samples collected from three lobby areas. EPA's published guidance indoor air levels for schools (September 2009) are 0.450 ug/m<sup>3</sup> for adults and 0.600 ug/m<sup>3</sup> for children 15 to 19 years of age. As indicated above, the concentrations detected in the samples are close to, but above, this range.

These target levels are based on an assumed 8 hour school day over 180 days for adults or college-aged students. However, the samples are from lobby areas, which are transient in nature and not continuously occupied or used for even short durations, such as classrooms; therefore, EPA's guidance levels are not directly applicable to the site-specific conditions.

To aid in understanding these indoor air levels in the context of their setting and for relative comparison purposes, action levels were derived using a health risk-based approach, following current USEPA risk



assessment guidelines. The calculations and assumptions for these levels were presented in Appendix B of the Remediation Plan and were developed for both student and library staff scenarios. The level for the staff, who have a longer exposure duration relative to students, produced the most conservative action level, which was 1.180 ug/m<sup>3</sup>. As indicated above, the reported indoor air concentrations were all below (with some approaching) this calculated action level. Of note, as part of a building upgrade, all light fixtures including ballasts were replaced throughout the library within the last six years.

In accordance with Approval Conditions 12c and 14, a long term monitoring and maintenance implementation plan (LTMMIP) is being developed to monitor the long term effectiveness of the encapsulating coatings and barriers. Based on the results of this initial testing, this plan will include both surface wipe and an expanded indoor air sampling program. The expanded indoor air sampling program will be developed to gain an understanding of indoor air levels in the different floors of the library as well as over the different seasons to assess any variations over time. The results from the initial round of surface wipe testing and indoor air samples (as described above) will be used in the development of the sample frequencies and locations for this subsequent monitoring.

In the interim, UMass has modified the building's ventilation system flow settings to maximize the system make-up air with fresh outside air (i.e., opened the dampers fully). Maximizing the make-up air is possible due to the moderate outside temperatures at this time of year. When the outside temperatures change, reduced make up air will be required to maintain the building temperatures within the desired range.

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.

A handwritten signature in cursive script that reads "Jeffrey A. Hamel".

Jeffrey A. Hamel, LSP, LEP  
Senior Vice President

cc: T Bechta, UMass EHS  
H. Merriman Jr, UMass FCP

Enclosures: Tables 1 and 2  
Attachment 1  
Attachment 2

**Table 1**  
**Summary of Verification Wipe Sample Results**  
**Dubois Library Elevator Replacement Project**  
**Amherst, Massachusetts**

| Surface Material                      | Sampling Event           | Encapsulant Applied  | Lobby and Elevator Shaft | Distance from Caulked Joint (inches) <sup>1</sup> | Verification Wipe Sample ID | Sample Date | Total PCBs (µg/100cm <sup>2</sup> ) |
|---------------------------------------|--------------------------|--|--------------------------|---|-----------------------------|-------------|-------------------------------------|
| In-Fill                               | Pre-Remediation          | Existing Painted Masonry (original painted surfaces)             | 4E0                      | 10  | DL-4E6-PWS(8-12)-087        | 1/15/2010   | < 0.50                              |
|                                       |                          |  | 15E0                     | 8   | DL-15E6-PWS(6-10)-084       | 1/15/2010   | < 0.50                              |
|                                       |                          |  | 18E4                     | 9   | DL-18E4-PWS(7-11)-081       | 1/15/2010   | 0.5                                 |
|                                       | Initial Encapsulation    | Two Coats of Sikagard 550W                                       | 24E0                     | 1   | DL-VWP-001                  | 8/17/2010   | < 0.50                              |
|                                       | Initial Post-Remediation | Two Coats of Sikagard 550W followed by Interior Paint Final Coat | 4E0                      | 6   | DL-19E0-VWC-103             | 8/28/2012   | < 0.20                              |
|                                       |                          |  | 15E0                     | 6   | DL-22E0-VWC-104             | 8/28/2012   | < 0.20                              |
| 24E0                                  |                          |  | 1.5                      | DL-24E0-VWC-105                                   | 8/28/2012                   | < 0.20      |                                     |
| Transom Plaster                       | Initial Encapsulation    | Two Coats of Sikagard 550W                                       | 3E4                      | 6   | DL-VWP-004                  | 8/17/2010   | < 0.50                              |
|                                       | Initial Post-Remediation | Two Coats of Sikagard 550W followed by Interior Paint Final Coat | 3E3                      | 6   | DL-3E3-VWC-106              | 8/28/2012   | 0.72                                |
| Ceiling                               | Initial Encapsulation    | Two Coats of Sikagard 550W                                       | 15E2                     | 6   | DL-VWP-002                  | 8/17/2010   | < 0.50                              |
|                                       | Initial Post-Remediation | Two Coats of Sikagard 550W followed by Interior Paint Final Coat | 15E2                     | 6   | DL-15E2-VWC-107             | 8/28/2012   | < 0.20                              |
| Structural Concrete (parallel face)   | Pre-Remediation          | Existing Painted Masonry (original painted surfaces)             | 4E1                      | 9   | DL-4E1-CWS(7-11)-086        | 1/15/2010   | < 0.50                              |
|                                       |                          |  | 15E2                     | 9   | DL-15E2-CWS(7-11)-083       | 1/15/2010   | < 0.50                              |
|                                       |                          |  | 18E4                     | 10  | DL-18E4-CWS(8-12)-080       | 1/15/2010   | < 0.50                              |
|                                       | Initial Post-Remediation | Interior Paint Final Coat  | 4E1                      | 10  | DL-4E1-VWC-101              | 8/28/2012   | < 0.20                              |
|                                       |                          |  | 15E2                     | 10  | DL-15E2-VWC-102             | 8/28/2012   | < 0.20                              |
| Structural Concrete (elevator recess) | Initial Encapsulation    | Two Coats of Sikagard 550W                                       | 6E1                      | 1   | DL-VWP-003                  | 8/17/2010   | < 0.50                              |
|                                       | Initial Post-Remediation | Two Coats of Sikagard 550W followed by Interior Paint Final Coat | 4E0                      | 2   | DL-4E0-VWC-100              | 8/28/2012   | 4.6                                 |

**Notes:**

(1) Centerpoint of area included in the wipe sample as measured from original caulked joint except for ceiling wipe sample which is measured from the lobby wall. Wipe samples collected in accordance with the standard wipe test procedures of 40 CFR 761.123 and analyzed for PCBs (USEPA Method 3540C/8082).

**Table 2  
Summary of Indoor Air Sample Results  
Dubois Library Elevator Replacement Project  
Amherst, Massachusetts**

| Floor  | Air Sample   | PCB Concentration (µg/cartridge) | Flow Rate (L/Minute) | Duration (minutes) | PCB Concentration (µg/m <sup>3</sup> ) | Air Sample   | PCB Concentration (µg/cartridge) | Flow Rate (L/Minute) | Duration (minutes) | PCB Concentration (µg/m <sup>3</sup> ) |
|--|--|----------------------------------|----------------------|--------------------|--|--|----------------------------------|----------------------|--------------------|--|
| <b>Project Specific Risk-Based Action Level: 1.18 µg/m<sup>3</sup></b> |  |                                  |                      |                    |  |  |                                  |                      |                    |  |
| Lobby Floor  | <b>Pre PCB Remediation Indoor Air Samples<br/>January 15, 2010</b> |                                  |                      |                    |  | <b>Post PCB Remediation Indoor Air Samples<br/>August 28, 2012</b> |                                  |                      |                    |  |
| 4  | DL-4E-IAS-088  | 0.198                            | 2.58                 | 121                | 0.629                                  | DL-4E-IAS-108  | 0.41                             | 2.6                  | 240                | 0.690                                  |
| 15   | DL-15E-IAS-085   | 0.146                            | 2.6                  | 127                | 0.442                                  | DL-15E-IAS-109   | 0.68                             | 2.6                  | 240                | 1.146                                  |
| 18   | DL-18E-IAS-082   | 0.193                            | 2.57                 | 128                | 0.580                                  | DL-18E-IAS-110   | 0.58                             | 2.6                  | 240                | 0.977                                  |
| Blank  | N/A  | N/A                              | N/A                  | N/A                | N/A                                    | DL-OUT-IAS-112   | < 0.005                          | 2.6                  | 250                | < 0.005                                |
| QA/QC Sample - Field Duplicate   |  |                                  |                      |                    |  |  |                                  |                      |                    |  |
| 18   | N/A  | N/A                              | N/A                  | NA/                | N/A                                    | DL-18ED-IAS-111  | 0.56                             | 2.6                  | 240                | 0.928                                  |

Notes:

Project Specific Risk-based Action Level as specified in the *Risk-Based Disposal and Cleanup PCB Remediation Plan* for the Dubois Library dated March 2010. Air samples collected in accordance with USEPA Compendium Method TO-10A "Determination of Pesticides and Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)" and submitted for laboratory analysis of PCBs homologs. Calculations conducted using average pressure and temperature data from UMass Computer Science Weather Station in five minute intervals throughout sample duration.

# **ATTACHMENT 1**

September 5, 2012

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

Project Location: UMass Dubois Library  
Client Job Number:  
Project Number: 222955  
Laboratory Work Order Number: 12H0956

Enclosed are results of analyses for samples received by the laboratory on August 28, 2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Meghan E. Kelley  
Project Manager



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

REPORT DATE: 9/5/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 222955

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 12H0956

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

PROJECT LOCATION: UMass Dubois Library

| FIELD SAMPLE #  | LAB ID:    | MATRIX | SAMPLE DESCRIPTION | TEST         | SUB LAB |
|-----------------|------------|--------|--------------------|--------------|---------|
| DL-4E0-VWC-100  | 12H0956-01 | Wipe   |                    | SW-846 8082A |         |
| DL-4E1-VWC-101  | 12H0956-02 | Wipe   |                    | SW-846 8082A |         |
| DL-15E2-VWC-102 | 12H0956-03 | Wipe   |                    | SW-846 8082A |         |
| DL-19E0-VWC-103 | 12H0956-04 | Wipe   |                    | SW-846 8082A |         |
| DL-22E0-VWC-104 | 12H0956-05 | Wipe   |                    | SW-846 8082A |         |
| DL-24E0-VWC-105 | 12H0956-06 | Wipe   |                    | SW-846 8082A |         |
| DL-3E4-VWC-106  | 12H0956-07 | Wipe   |                    | SW-846 8082A |         |
| DL-15E2-VWC-107 | 12H0956-08 | Wipe   |                    | SW-846 8082A |         |

**CASE NARRATIVE SUMMARY**

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

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Daren J. Damboragian", is written over a light gray rectangular background.

Daren J. Damboragian  
Laboratory Manager

Project Location: UMass Dubois Library

Sample Description:

Work Order: 12H0956

Date Received: 8/28/2012

Field Sample #: DL-4E0-VWC-100

Sampled: 8/28/2012 17:00

Sample ID: 12H0956-01

Sample Matrix: Wipe

**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        | µg/Wipe         | 5        |      | SW-846 8082A | 8/31/12       | 9/5/12 10:07       | MJC     |
| Aroclor-1221 [1]         | ND      | 1.0        | µg/Wipe         | 5        |      | SW-846 8082A | 8/31/12       | 9/5/12 10:07       | MJC     |
| Aroclor-1232 [1]         | ND      | 1.0        | µg/Wipe         | 5        |      | SW-846 8082A | 8/31/12       | 9/5/12 10:07       | MJC     |
| Aroclor-1242 [1]         | ND      | 1.0        | µg/Wipe         | 5        |      | SW-846 8082A | 8/31/12       | 9/5/12 10:07       | MJC     |
| Aroclor-1248 [1]         | ND      | 1.0        | µg/Wipe         | 5        |      | SW-846 8082A | 8/31/12       | 9/5/12 10:07       | MJC     |
| Aroclor-1254 [2]         | 4.6     | 1.0        | µg/Wipe         | 5        |      | SW-846 8082A | 8/31/12       | 9/5/12 10:07       | MJC     |
| Aroclor-1260 [1]         | ND      | 1.0        | µg/Wipe         | 5        |      | SW-846 8082A | 8/31/12       | 9/5/12 10:07       | MJC     |
| Aroclor-1262 [1]         | ND      | 1.0        | µg/Wipe         | 5        |      | SW-846 8082A | 8/31/12       | 9/5/12 10:07       | MJC     |
| Aroclor-1268 [1]         | ND      | 1.0        | µg/Wipe         | 5        |      | SW-846 8082A | 8/31/12       | 9/5/12 10:07       | MJC     |
| Surrogates               |         | % Recovery | Recovery Limits |          | Flag |              |               |                    |         |
| Decachlorobiphenyl [1]   |         | 125        | 30-150          |          |      |              |               | 9/5/12 10:07       |         |
| Decachlorobiphenyl [2]   |         | 127        | 30-150          |          |      |              |               | 9/5/12 10:07       |         |
| Tetrachloro-m-xylene [1] |         | 112        | 30-150          |          |      |              |               | 9/5/12 10:07       |         |
| Tetrachloro-m-xylene [2] |         | 115        | 30-150          |          |      |              |               | 9/5/12 10:07       |         |

Project Location: UMass Dubois Library

Sample Description:

Work Order: 12H0956

Date Received: 8/28/2012

Field Sample #: DL-4E1-VWC-101

Sampled: 8/28/2012 17:10

Sample ID: 12H0956-02

Sample Matrix: Wipe

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

| Analyte                  | Results | RL         | Units           | Dilution | Flag | Method       | Date Prepared | Date/Time Analyzed | Analyst |
|--------------------------|---------|------------|-----------------|----------|------|--------------|---------------|--------------------|---------|
| Aroclor-1016 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:13       | MJC     |
| Aroclor-1221 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:13       | MJC     |
| Aroclor-1232 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:13       | MJC     |
| Aroclor-1242 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:13       | MJC     |
| Aroclor-1248 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:13       | MJC     |
| Aroclor-1254 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:13       | MJC     |
| Aroclor-1260 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:13       | MJC     |
| Aroclor-1262 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:13       | MJC     |
| Aroclor-1268 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:13       | MJC     |
| Surrogates               |         | % Recovery | Recovery Limits |          | Flag |              |               |                    |         |
| Decachlorobiphenyl [1]   |         | 79.3       | 30-150          |          |      |              |               | 9/4/12 18:13       |         |
| Decachlorobiphenyl [2]   |         | 77.2       | 30-150          |          |      |              |               | 9/4/12 18:13       |         |
| Tetrachloro-m-xylene [1] |         | 92.2       | 30-150          |          |      |              |               | 9/4/12 18:13       |         |
| Tetrachloro-m-xylene [2] |         | 89.8       | 30-150          |          |      |              |               | 9/4/12 18:13       |         |

Project Location: UMass Dubois Library

Sample Description:

Work Order: 12H0956

Date Received: 8/28/2012

Field Sample #: DL-15E2-VWC-102

Sampled: 8/28/2012 17:15

Sample ID: 12H0956-03

Sample Matrix: Wipe

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

| Analyte                  | Results | RL         | Units           | Dilution | Flag | Method       | Date Prepared | Date/Time Analyzed | Analyst |
|--------------------------|---------|------------|-----------------|----------|------|--------------|---------------|--------------------|---------|
| Aroclor-1016 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:26       | MJC     |
| Aroclor-1221 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:26       | MJC     |
| Aroclor-1232 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:26       | MJC     |
| Aroclor-1242 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:26       | MJC     |
| Aroclor-1248 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:26       | MJC     |
| Aroclor-1254 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:26       | MJC     |
| Aroclor-1260 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:26       | MJC     |
| Aroclor-1262 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:26       | MJC     |
| Aroclor-1268 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:26       | MJC     |
| Surrogates               |         | % Recovery | Recovery Limits |          | Flag |              |               |                    |         |
| Decachlorobiphenyl [1]   |         | 78.7       | 30-150          |          |      |              |               | 9/4/12 18:26       |         |
| Decachlorobiphenyl [2]   |         | 76.3       | 30-150          |          |      |              |               | 9/4/12 18:26       |         |
| Tetrachloro-m-xylene [1] |         | 91.9       | 30-150          |          |      |              |               | 9/4/12 18:26       |         |
| Tetrachloro-m-xylene [2] |         | 89.9       | 30-150          |          |      |              |               | 9/4/12 18:26       |         |

Project Location: UMass Dubois Library

Sample Description:

Work Order: 12H0956

Date Received: 8/28/2012

Field Sample #: DL-19EO-VWC-103

Sampled: 8/28/2012 17:20

Sample ID: 12H0956-04

Sample Matrix: Wipe

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

| Analyte                  | Results | RL         | Units           | Dilution | Flag | Method       | Date Prepared | Date/Time Analyzed | Analyst |
|--------------------------|---------|------------|-----------------|----------|------|--------------|---------------|--------------------|---------|
| Aroclor-1016 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:39       | MJC     |
| Aroclor-1221 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:39       | MJC     |
| Aroclor-1232 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:39       | MJC     |
| Aroclor-1242 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:39       | MJC     |
| Aroclor-1248 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:39       | MJC     |
| Aroclor-1254 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:39       | MJC     |
| Aroclor-1260 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:39       | MJC     |
| Aroclor-1262 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:39       | MJC     |
| Aroclor-1268 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:39       | MJC     |
| Surrogates               |         | % Recovery | Recovery Limits |          | Flag |              |               |                    |         |
| Decachlorobiphenyl [1]   |         | 79.5       | 30-150          |          |      |              |               | 9/4/12 18:39       |         |
| Decachlorobiphenyl [2]   |         | 76.9       | 30-150          |          |      |              |               | 9/4/12 18:39       |         |
| Tetrachloro-m-xylene [1] |         | 89.3       | 30-150          |          |      |              |               | 9/4/12 18:39       |         |
| Tetrachloro-m-xylene [2] |         | 86.7       | 30-150          |          |      |              |               | 9/4/12 18:39       |         |

Project Location: UMass Dubois Library

Sample Description:

Work Order: 12H0956

Date Received: 8/28/2012

Field Sample #: DL-22E0-VWC-104

Sampled: 8/28/2012 17:25

Sample ID: 12H0956-05

Sample Matrix: Wipe

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

| Analyte                  | Results | RL         | Units           | Dilution | Flag | Method       | Date Prepared | Date/Time Analyzed | Analyst |
|--------------------------|---------|------------|-----------------|----------|------|--------------|---------------|--------------------|---------|
| Aroclor-1016 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:52       | MJC     |
| Aroclor-1221 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:52       | MJC     |
| Aroclor-1232 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:52       | MJC     |
| Aroclor-1242 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:52       | MJC     |
| Aroclor-1248 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:52       | MJC     |
| Aroclor-1254 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:52       | MJC     |
| Aroclor-1260 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:52       | MJC     |
| Aroclor-1262 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:52       | MJC     |
| Aroclor-1268 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 18:52       | MJC     |
| Surrogates               |         | % Recovery | Recovery Limits |          | Flag |              |               |                    |         |
| Decachlorobiphenyl [1]   |         | 76.3       | 30-150          |          |      |              |               | 9/4/12 18:52       |         |
| Decachlorobiphenyl [2]   |         | 73.9       | 30-150          |          |      |              |               | 9/4/12 18:52       |         |
| Tetrachloro-m-xylene [1] |         | 84.6       | 30-150          |          |      |              |               | 9/4/12 18:52       |         |
| Tetrachloro-m-xylene [2] |         | 82.5       | 30-150          |          |      |              |               | 9/4/12 18:52       |         |

Project Location: UMass Dubois Library

Sample Description:

Work Order: 12H0956

Date Received: 8/28/2012

Field Sample #: DL-24E0-VWC-105

Sampled: 8/28/2012 17:35

Sample ID: 12H0956-06

Sample Matrix: Wipe

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

| Analyte                  | Results | RL         | Units           | Dilution | Flag | Method       | Date Prepared | Date/Time Analyzed | Analyst |
|--------------------------|---------|------------|-----------------|----------|------|--------------|---------------|--------------------|---------|
| Aroclor-1016 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:05       | MJC     |
| Aroclor-1221 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:05       | MJC     |
| Aroclor-1232 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:05       | MJC     |
| Aroclor-1242 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:05       | MJC     |
| Aroclor-1248 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:05       | MJC     |
| Aroclor-1254 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:05       | MJC     |
| Aroclor-1260 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:05       | MJC     |
| Aroclor-1262 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:05       | MJC     |
| Aroclor-1268 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:05       | MJC     |
| Surrogates               |         | % Recovery | Recovery Limits |          | Flag |              |               |                    |         |
| Decachlorobiphenyl [1]   |         | 80.5       | 30-150          |          |      |              |               | 9/4/12 19:05       |         |
| Decachlorobiphenyl [2]   |         | 78.2       | 30-150          |          |      |              |               | 9/4/12 19:05       |         |
| Tetrachloro-m-xylene [1] |         | 85.5       | 30-150          |          |      |              |               | 9/4/12 19:05       |         |
| Tetrachloro-m-xylene [2] |         | 82.9       | 30-150          |          |      |              |               | 9/4/12 19:05       |         |



Project Location: UMass Dubois Library

Sample Description:

Work Order: 12H0956

Date Received: 8/28/2012

Field Sample #: DL-3E4-VWC-106

Sampled: 8/28/2012 18:30

Sample ID: 12H0956-07

Sample Matrix: Wipe

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

| Analyte                  | Results | RL         | Units           | Dilution | Flag | Method       | Date Prepared | Date/Time Analyzed | Analyst |
|--------------------------|---------|------------|-----------------|----------|------|--------------|---------------|--------------------|---------|
| Aroclor-1016 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/5/12 9:29        | MJC     |
| Aroclor-1221 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/5/12 9:29        | MJC     |
| Aroclor-1232 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/5/12 9:29        | MJC     |
| Aroclor-1242 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/5/12 9:29        | MJC     |
| Aroclor-1248 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/5/12 9:29        | MJC     |
| Aroclor-1254 [1]         | 0.72    | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/5/12 9:29        | MJC     |
| Aroclor-1260 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/5/12 9:29        | MJC     |
| Aroclor-1262 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/5/12 9:29        | MJC     |
| Aroclor-1268 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/5/12 9:29        | MJC     |
| Surrogates               |         | % Recovery | Recovery Limits |          | Flag |              |               |                    |         |
| Decachlorobiphenyl [1]   |         | 122        | 30-150          |          |      |              |               | 9/5/12 9:29        |         |
| Decachlorobiphenyl [2]   |         | 132        | 30-150          |          |      |              |               | 9/5/12 9:29        |         |
| Tetrachloro-m-xylene [1] |         | 112        | 30-150          |          |      |              |               | 9/5/12 9:29        |         |
| Tetrachloro-m-xylene [2] |         | 117        | 30-150          |          |      |              |               | 9/5/12 9:29        |         |

Project Location: UMass Dubois Library

Sample Description:

Work Order: 12H0956

Date Received: 8/28/2012

Field Sample #: DL-15E2-VWC-107

Sampled: 8/28/2012 18:35

Sample ID: 12H0956-08

Sample Matrix: Wipe

**Polychlorinated Biphenyls with 3540 Soxhlet Extraction**

| Analyte                  | Results | RL         | Units           | Dilution | Flag | Method       | Date Prepared | Date/Time Analyzed | Analyst |
|--------------------------|---------|------------|-----------------|----------|------|--------------|---------------|--------------------|---------|
| Aroclor-1016 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:31       | MJC     |
| Aroclor-1221 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:31       | MJC     |
| Aroclor-1232 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:31       | MJC     |
| Aroclor-1242 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:31       | MJC     |
| Aroclor-1248 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:31       | MJC     |
| Aroclor-1254 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:31       | MJC     |
| Aroclor-1260 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:31       | MJC     |
| Aroclor-1262 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:31       | MJC     |
| Aroclor-1268 [1]         | ND      | 0.20       | µg/Wipe         | 1        |      | SW-846 8082A | 8/31/12       | 9/4/12 19:31       | MJC     |
| Surrogates               |         | % Recovery | Recovery Limits |          | Flag |              |               |                    |         |
| Decachlorobiphenyl [1]   |         | 74.1       | 30-150          |          |      |              |               | 9/4/12 19:31       |         |
| Decachlorobiphenyl [2]   |         | 73.0       | 30-150          |          |      |              |               | 9/4/12 19:31       |         |
| Tetrachloro-m-xylene [1] |         | 89.1       | 30-150          |          |      |              |               | 9/4/12 19:31       |         |
| Tetrachloro-m-xylene [2] |         | 87.2       | 30-150          |          |      |              |               | 9/4/12 19:31       |         |

### Sample Extraction Data

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

| Lab Number [Field ID]        | Batch   | Initial [Wipe] | Final [mL] | Date     |
|------------------------------|---------|----------------|------------|----------|
| 12H0956-01 [DL-4E0-VWC-100]  | B058030 | 1.00           | 10.0       | 08/31/12 |
| 12H0956-02 [DL-4E1-VWC-101]  | B058030 | 1.00           | 10.0       | 08/31/12 |
| 12H0956-03 [DL-15E2-VWC-102] | B058030 | 1.00           | 10.0       | 08/31/12 |
| 12H0956-04 [DL-19E0-VWC-103] | B058030 | 1.00           | 10.0       | 08/31/12 |
| 12H0956-05 [DL-22E0-VWC-104] | B058030 | 1.00           | 10.0       | 08/31/12 |
| 12H0956-06 [DL-24E0-VWC-105] | B058030 | 1.00           | 10.0       | 08/31/12 |
| 12H0956-07 [DL-3E4-VWC-106]  | B058030 | 1.00           | 10.0       | 08/31/12 |
| 12H0956-08 [DL-15E2-VWC-107] | B058030 | 1.00           | 10.0       | 08/31/12 |

**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 B058030 - SW-846 3540C**

**Blank (B058030-BLK1)**

Prepared: 08/31/12 Analyzed: 09/04/12

|                                      |      |      |         |      |  |      |        |  |  |  |
|--------------------------------------|------|------|---------|------|--|------|--------|--|--|--|
| Aroclor-1016                         | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1016 [2C]                    | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1221                         | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1221 [2C]                    | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1232                         | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1232 [2C]                    | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1242                         | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1242 [2C]                    | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1248                         | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1248 [2C]                    | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1254                         | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1254 [2C]                    | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1260                         | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1260 [2C]                    | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1262                         | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1262 [2C]                    | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1268                         | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Aroclor-1268 [2C]                    | ND   | 0.20 | µg/Wipe |      |  |      |        |  |  |  |
| Surrogate: Decachlorobiphenyl        | 1.52 |      | µg/Wipe | 2.00 |  | 75.9 | 30-150 |  |  |  |
| Surrogate: Decachlorobiphenyl [2C]   | 1.45 |      | µg/Wipe | 2.00 |  | 72.7 | 30-150 |  |  |  |
| Surrogate: Tetrachloro-m-xylene      | 1.67 |      | µg/Wipe | 2.00 |  | 83.6 | 30-150 |  |  |  |
| Surrogate: Tetrachloro-m-xylene [2C] | 1.63 |      | µg/Wipe | 2.00 |  | 81.3 | 30-150 |  |  |  |

**LCS (B058030-BS1)**

Prepared: 08/31/12 Analyzed: 09/04/12

|                                      |      |      |         |       |  |      |        |  |  |  |
|--------------------------------------|------|------|---------|-------|--|------|--------|--|--|--|
| Aroclor-1016                         | 0.50 | 0.20 | µg/Wipe | 0.500 |  | 100  | 40-140 |  |  |  |
| Aroclor-1016 [2C]                    | 0.47 | 0.20 | µg/Wipe | 0.500 |  | 93.7 | 40-140 |  |  |  |
| Aroclor-1260                         | 0.40 | 0.20 | µg/Wipe | 0.500 |  | 79.5 | 40-140 |  |  |  |
| Aroclor-1260 [2C]                    | 0.41 | 0.20 | µg/Wipe | 0.500 |  | 82.1 | 40-140 |  |  |  |
| Surrogate: Decachlorobiphenyl        | 1.53 |      | µg/Wipe | 2.00  |  | 76.6 | 30-150 |  |  |  |
| Surrogate: Decachlorobiphenyl [2C]   | 1.47 |      | µg/Wipe | 2.00  |  | 73.5 | 30-150 |  |  |  |
| Surrogate: Tetrachloro-m-xylene      | 1.80 |      | µg/Wipe | 2.00  |  | 89.8 | 30-150 |  |  |  |
| Surrogate: Tetrachloro-m-xylene [2C] | 1.76 |      | µg/Wipe | 2.00  |  | 87.9 | 30-150 |  |  |  |

**LCS Dup (B058030-BSD1)**

Prepared: 08/31/12 Analyzed: 09/04/12

|                                      |      |      |         |       |  |      |        |      |    |  |
|--------------------------------------|------|------|---------|-------|--|------|--------|------|----|--|
| Aroclor-1016                         | 0.47 | 0.20 | µg/Wipe | 0.500 |  | 94.2 | 40-140 | 6.17 | 30 |  |
| Aroclor-1016 [2C]                    | 0.45 | 0.20 | µg/Wipe | 0.500 |  | 89.9 | 40-140 | 4.07 | 30 |  |
| Aroclor-1260                         | 0.39 | 0.20 | µg/Wipe | 0.500 |  | 77.4 | 40-140 | 2.65 | 30 |  |
| Aroclor-1260 [2C]                    | 0.40 | 0.20 | µg/Wipe | 0.500 |  | 80.0 | 40-140 | 2.66 | 30 |  |
| Surrogate: Decachlorobiphenyl        | 1.49 |      | µg/Wipe | 2.00  |  | 74.7 | 30-150 |      |    |  |
| Surrogate: Decachlorobiphenyl [2C]   | 1.43 |      | µg/Wipe | 2.00  |  | 71.7 | 30-150 |      |    |  |
| Surrogate: Tetrachloro-m-xylene      | 1.68 |      | µg/Wipe | 2.00  |  | 84.1 | 30-150 |      |    |  |
| Surrogate: Tetrachloro-m-xylene [2C] | 1.65 |      | µg/Wipe | 2.00  |  | 82.4 | 30-150 |      |    |  |

**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.

**CERTIFICATIONS****Certified Analyses included in this Report**

| <b>Analyte</b> | <b>Certifications</b> |
|----------------|-----------------------|
|----------------|-----------------------|

**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        | 02/1/2014  |
| MA   | Massachusetts DEP                            | M-MA100       | 06/30/2013 |
| CT   | Connecticut Department of Public Health      | PH-0567       | 09/30/2013 |
| NY   | New York State Department of Health          | 10899 NELAP   | 04/1/2013  |
| NH   | New Hampshire Environmental Lab              | 2516 NELAP    | 02/5/2013  |
| RI   | Rhode Island Department of Health            | LAO00112      | 12/30/2012 |
| NC   | North Carolina Div. of Water Quality         | 652           | 12/31/2012 |
| NJ   | New Jersey DEP                               | MA007 NELAP   | 06/30/2013 |
| FL   | Florida Department of Health                 | E871027 NELAP | 06/30/2013 |
| VT   | Vermont Department of Health Lead Laboratory | LL015036      | 07/30/2013 |
| WA   | State of Washington Department of Ecology    | C2065         | 02/23/2013 |
| ME   | State of Maine                               | 2011028       | 06/9/2013  |
| VA   | Commonwealth of Virginia                     | 1381          | 12/14/2012 |



**CON-TEST**  
ANALYTICAL LABORATORY

Phone: 413-525-2332  
Fax: 413-525-6405  
Email: info@contestlabs.com  
www.contestlabs.com

**CHAIN OF CUSTODY RECORD**

39 Spruce Street  
East Longmeadow, MA 01028

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12H0956  
Rev 04.05.12

Company Name: WOODWARD + LOREAN

Address: 35 N.E. Bus Dr Drive Suite 180

City: Andover, MA

Attention: J Harold & Franklin, K Richard

Project Location: UMA Dubois Library

Sampled By: Kim Richard

Project Proposal Provided? (for billing purposes)  
 Yes  No (proposal date)

Telephone: \_\_\_\_\_

Project # 222955

Client PO# \_\_\_\_\_

DATA DELIVERY (check all that apply)  
 FAX  EMAIL  WEBSITE

Email: john@woodwardlorea.com

Format:  PDF  EXCEL  OGIS

OTHER  "Enhanced Data Package"

Con-Test Lab ID (Laboratory use only)

Client Sample ID / Description

Beginning Date/Time

Ending Date/Time

Composite

Grab

\*Matrix Code

Final

Initial

Volume

Temperature

Remarks

Analysis Requested

Number of Containers

Preservation

01 DL-4ED-VWC-100

8/28/12

1700

U

U

U

U

U

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02 DL-4E1-VWC-101

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1710

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03 DL-1SE2-VWC-102

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1715

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04 DL-19ED-VWC-103

8/28/12

1725

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05 DL-22ED-VWC-104

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1735

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06 DL-24ED-VWC-105

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1830

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07 DL-3E4-VWC-106

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1835

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08 DL-1SE2-VWC-107

8/28/12

1835

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Comments: ① EPA 8082 Plus vnr 3540C ② RL & lvs/wipe  
③ 5 day TAT ④ Dubois Elevator Lobby Wipes

Relinquished by: (signature) Kim Richard (KARimed)

Date/Time: 9/20/12 2000

Received by: (signature) Kim Richard

Date/Time: 9/20/12 2000

Relinquished by: (signature) \_\_\_\_\_

Date/Time: \_\_\_\_\_

Received by: (signature) \_\_\_\_\_

Date/Time: \_\_\_\_\_

| Turnaround <sup>†</sup>  | Detection Limit Requirements    | Other: |
|--|---------------------------------|--------|
| <input type="checkbox"/> 7-Day                                 | Massachusetts:                  |        |
| <input type="checkbox"/> 10-Day                                | Connecticut:                    |        |
| <input checked="" type="checkbox"/> RUSH <sup>†</sup>          | Other: <u>RL &amp; lvs/wipe</u> |        |
| <input type="checkbox"/> 24-Hr <input type="checkbox"/> 48-Hr  |                                 |        |
| <input type="checkbox"/> 72-Hr <input type="checkbox"/> 74-Day |                                 |        |
| <input type="checkbox"/> Require lab approval                  |                                 |        |

| Analysis Requested     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| EPA 8082/3540C Soxhlet |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |

\*\*\*Container Code

\*\* Preservation

# of Containers

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

Z= HEXANE

\*Matrix Code:

GW= groundwater

WW= wastewater

DW= drinking water

A= air

S= soil/solid

SL= sludge

O= other

W1= Wipe

Is your project MCP or RCP?

MCP Form Required

RCP Form Required

MA State DW Form Required PWSID # \_\_\_\_\_

NELAC & AIHA-LAP, LLC

Accredited

WBE/DBE Certified

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



### Sample Receipt Checklist

CLIENT NAME: Woodard & Curran RECEIVED BY: WF DATE: 4/2/12

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 3.9

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: \_\_\_\_\_

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

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

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

### 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  | <u>8</u>        |
| 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:



## **ATTACHMENT 2**

September 5, 2012

Kim Rinard  
Woodard & Curran - Andover, MA  
35 New England Business Center  
Andover, MA 01810

Project Location: UMass Dubois Library  
Client Job Number:  
Project Number: 222955  
Laboratory Work Order Number: 12H0955

Enclosed are results of analyses for samples received by the laboratory on August 28, 2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Meghan E. Kelley". The signature is written in a cursive style with a large, sweeping flourish at the end.

Meghan E. Kelley  
Project Manager

Woodard & Curran - Andover, MA  
35 New England Business Center  
Andover, MA 01810  
ATTN: Kim Rinard

REPORT DATE: 9/5/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 222955

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 12H0955

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

PROJECT LOCATION: UMass Dubois Library

| FIELD SAMPLE #  | LAB ID:    | MATRIX | SAMPLE DESCRIPTION | TEST                       | SUB LAB |
|-----------------|------------|--------|--------------------|----------------------------|---------|
| DL-4E-IAS-108   | 12H0955-01 | Air    |                    | TO-10A/EPA 680<br>Modified |         |
| DL-15E-IAS-109  | 12H0955-02 | Air    |                    | TO-10A/EPA 680<br>Modified |         |
| DL-18E-IAS-110  | 12H0955-03 | Air    |                    | TO-10A/EPA 680<br>Modified |         |
| DL-18ED-IAS-111 | 12H0955-04 | Air    |                    | TO-10A/EPA 680<br>Modified |         |
| DL-OUT-IAS-112  | 12H0955-05 | Air    |                    | TO-10A/EPA 680<br>Modified |         |

**CASE NARRATIVE SUMMARY**

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

**TO-10A/EPA 680 Modified**

**Qualifications:**

---

Surrogate recovery is outside of control limits. Sample media does not allow for re-extraction.

**Analyte & Samples(s) Qualified:**

**Tetrachloro-m-xylene**

12H0955-05[DL-OUT-IAS-112]

---

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 individuals 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

**ANALYTICAL RESULTS**

Project Location: UMass Dubois Library  
 Date Received: 8/28/2012  
**Field Sample #: DL-4E-IAS-108**  
**Sample ID: 12H0955-01**  
 Sample Matrix: Air  
 Sampled: 8/28/2012 18:15

Sample Description/Location:  
 Sub Description/Location:  
  
 Flow Controller ID:  
 Sample Type:  
 Air Volume L: 624

**Work Order: 12H0955**

**TO-10A/EPA 680 Modified**

| Analyte                         | Total µg |        | Flag | ug/m3   |        | Dilution | Date/Time Analyzed | Analyst |
|---------------------------------|----------|--------|------|---------|--------|----------|--------------------|---------|
|                                 | Results  | RL     |      | Results | RL     |          |                    |         |
| Monochlorobiphenyls             | 0.026    | 0.0010 |      | 0.042   | 0.0016 | 1        | 9/1/12 16:16       | CJM     |
| Dichlorobiphenyls               | 0.026    | 0.0010 |      | 0.041   | 0.0016 | 1        | 9/1/12 16:16       | CJM     |
| Trichlorobiphenyls              | 0.066    | 0.0010 |      | 0.11    | 0.0016 | 1        | 9/1/12 16:16       | CJM     |
| Tetrachlorobiphenyls            | 0.12     | 0.0020 |      | 0.20    | 0.0032 | 1        | 9/1/12 16:16       | CJM     |
| Pentachlorobiphenyls            | 0.12     | 0.0020 |      | 0.19    | 0.0032 | 1        | 9/1/12 16:16       | CJM     |
| Hexachlorobiphenyls             | 0.041    | 0.0020 |      | 0.065   | 0.0032 | 1        | 9/1/12 16:16       | CJM     |
| Heptachlorobiphenyls            | 0.0084   | 0.0030 |      | 0.013   | 0.0048 | 1        | 9/1/12 16:16       | CJM     |
| Octachlorobiphenyls             | ND       | 0.0030 |      | ND      | 0.0048 | 1        | 9/1/12 16:16       | CJM     |
| Nonachlorobiphenyls             | ND       | 0.0050 |      | ND      | 0.008  | 1        | 9/1/12 16:16       | CJM     |
| Decachlorobiphenyl              | ND       | 0.0050 |      | ND      | 0.008  | 1        | 9/1/12 16:16       | CJM     |
| Total Polychlorinated biphenyls | 0.41     |        |      | 0.66    |        | 1        | 9/1/12 16:16       | CJM     |

| Surrogates           | % Recovery | % REC Limits |              |
|----------------------|------------|--------------|--------------|
| Tetrachloro-m-xylene | 81.9       | 50-125       | 9/1/12 16:16 |

**ANALYTICAL RESULTS**

Project Location: UMass Dubois Library  
 Date Received: 8/28/2012  
**Field Sample #: DL-15E-IAS-109**  
**Sample ID: 12H0955-02**  
 Sample Matrix: Air  
 Sampled: 8/28/2012 18:00

Sample Description/Location:  
 Sub Description/Location:  
  
 Flow Controller ID:  
 Sample Type:  
 Air Volume L: 624

**Work Order: 12H0955**

**TO-10A/EPA 680 Modified**

| Analyte                         | Total µg |        | Flag | ug/m3   |        | Dilution | Date/Time Analyzed | Analyst |
|---------------------------------|----------|--------|------|---------|--------|----------|--------------------|---------|
|                                 | Results  | RL     |      | Results | RL     |          |                    |         |
| Monochlorobiphenyls             | 0.059    | 0.0010 |      | 0.094   | 0.0016 | 1        | 9/1/12 16:51       | CJM     |
| Dichlorobiphenyls               | 0.050    | 0.0010 |      | 0.081   | 0.0016 | 1        | 9/1/12 16:51       | CJM     |
| Trichlorobiphenyls              | 0.12     | 0.0010 |      | 0.20    | 0.0016 | 1        | 9/1/12 16:51       | CJM     |
| Tetrachlorobiphenyls            | 0.20     | 0.0020 |      | 0.32    | 0.0032 | 1        | 9/1/12 16:51       | CJM     |
| Pentachlorobiphenyls            | 0.19     | 0.0020 |      | 0.30    | 0.0032 | 1        | 9/1/12 16:51       | CJM     |
| Hexachlorobiphenyls             | 0.048    | 0.0020 |      | 0.077   | 0.0032 | 1        | 9/1/12 16:51       | CJM     |
| Heptachlorobiphenyls            | 0.0094   | 0.0030 |      | 0.015   | 0.0048 | 1        | 9/1/12 16:51       | CJM     |
| Octachlorobiphenyls             | ND       | 0.0030 |      | ND      | 0.0048 | 1        | 9/1/12 16:51       | CJM     |
| Nonachlorobiphenyls             | ND       | 0.0050 |      | ND      | 0.008  | 1        | 9/1/12 16:51       | CJM     |
| Decachlorobiphenyl              | ND       | 0.0050 |      | ND      | 0.008  | 1        | 9/1/12 16:51       | CJM     |
| Total Polychlorinated biphenyls | 0.68     |        |      | 1.1     |        | 1        | 9/1/12 16:51       | CJM     |

| Surrogates           | % Recovery | % REC Limits |              |
|----------------------|------------|--------------|--------------|
| Tetrachloro-m-xylene | 76.7       | 50-125       | 9/1/12 16:51 |

**ANALYTICAL RESULTS**

Project Location: UMass Dubois Library  
 Date Received: 8/28/2012  
 Field Sample #: DL-18E-IAS-110  
 Sample ID: 12H0955-03  
 Sample Matrix: Air  
 Sampled: 8/28/2012 18:10

Sample Description/Location:  
 Sub Description/Location:  
 Flow Controller ID:  
 Sample Type:  
 Air Volume L: 624

Work Order: 12H0955

**TO-10A/EPA 680 Modified**

| Analyte                         | Total µg |        | Flag | ug/m3   |        | Dilution | Date/Time Analyzed | Analyst |
|---------------------------------|----------|--------|------|---------|--------|----------|--------------------|---------|
|                                 | Results  | RL     |      | Results | RL     |          |                    |         |
| Monochlorobiphenyls             | 0.058    | 0.0010 |      | 0.093   | 0.0016 | 1        | 9/1/12 13:27       | CJM     |
| Dichlorobiphenyls               | 0.046    | 0.0010 |      | 0.074   | 0.0016 | 1        | 9/1/12 13:27       | CJM     |
| Trichlorobiphenyls              | 0.11     | 0.0010 |      | 0.18    | 0.0016 | 1        | 9/1/12 13:27       | CJM     |
| Tetrachlorobiphenyls            | 0.17     | 0.0020 |      | 0.27    | 0.0032 | 1        | 9/1/12 13:27       | CJM     |
| Pentachlorobiphenyls            | 0.15     | 0.0020 |      | 0.24    | 0.0032 | 1        | 9/1/12 13:27       | CJM     |
| Hexachlorobiphenyls             | 0.038    | 0.0020 |      | 0.061   | 0.0032 | 1        | 9/1/12 13:27       | CJM     |
| Heptachlorobiphenyls            | 0.0068   | 0.0030 |      | 0.011   | 0.0048 | 1        | 9/1/12 13:27       | CJM     |
| Octachlorobiphenyls             | ND       | 0.0030 |      | ND      | 0.0048 | 1        | 9/1/12 13:27       | CJM     |
| Nonachlorobiphenyls             | ND       | 0.0050 |      | ND      | 0.008  | 1        | 9/1/12 13:27       | CJM     |
| Decachlorobiphenyl              | ND       | 0.0050 |      | ND      | 0.008  | 1        | 9/1/12 13:27       | CJM     |
| Total Polychlorinated biphenyls | 0.58     |        |      | 0.93    |        | 1        | 9/1/12 13:27       | CJM     |

| Surrogates           | % Recovery | % REC Limits |
|----------------------|------------|--------------|
| Tetrachloro-m-xylene | 75.9       | 50-125       |

**ANALYTICAL RESULTS**

Project Location: UMass Dubois Library  
 Date Received: 8/28/2012  
 Field Sample #: DL-18ED-IAS-111  
 Sample ID: 12H0955-04  
 Sample Matrix: Air  
 Sampled: 8/28/2012 18:05

Sample Description/Location:  
 Sub Description/Location:  
 Flow Controller ID:  
 Sample Type:  
 Air Volume L: 624

Work Order: 12H0955

**TO-10A/EPA 680 Modified**

| Analyte                         | Total µg |        | Flag | ug/m3   |        | Dilution | Date/Time Analyzed | Analyst |
|---------------------------------|----------|--------|------|---------|--------|----------|--------------------|---------|
|                                 | Results  | RL     |      | Results | RL     |          |                    |         |
| Monochlorobiphenyls             | 0.057    | 0.0010 |      | 0.091   | 0.0016 | 1        | 9/1/12 14:01       | CJM     |
| Dichlorobiphenyls               | 0.046    | 0.0010 |      | 0.074   | 0.0016 | 1        | 9/1/12 14:01       | CJM     |
| Trichlorobiphenyls              | 0.11     | 0.0010 |      | 0.17    | 0.0016 | 1        | 9/1/12 14:01       | CJM     |
| Tetrachlorobiphenyls            | 0.16     | 0.0020 |      | 0.26    | 0.0032 | 1        | 9/1/12 14:01       | CJM     |
| Pentachlorobiphenyls            | 0.14     | 0.0020 |      | 0.23    | 0.0032 | 1        | 9/1/12 14:01       | CJM     |
| Hexachlorobiphenyls             | 0.037    | 0.0020 |      | 0.059   | 0.0032 | 1        | 9/1/12 14:01       | CJM     |
| Heptachlorobiphenyls            | 0.0066   | 0.0030 |      | 0.011   | 0.0048 | 1        | 9/1/12 14:01       | CJM     |
| Octachlorobiphenyls             | ND       | 0.0030 |      | ND      | 0.0048 | 1        | 9/1/12 14:01       | CJM     |
| Nonachlorobiphenyls             | ND       | 0.0050 |      | ND      | 0.008  | 1        | 9/1/12 14:01       | CJM     |
| Decachlorobiphenyl              | ND       | 0.0050 |      | ND      | 0.008  | 1        | 9/1/12 14:01       | CJM     |
| Total Polychlorinated biphenyls | 0.56     |        |      | 0.90    |        | 1        | 9/1/12 14:01       | CJM     |

| Surrogates           | % Recovery | % REC Limits | Date/Time Analyzed |
|----------------------|------------|--------------|--------------------|
| Tetrachloro-m-xylene | 73.3       | 50-125       | 9/1/12 14:01       |



**ANALYTICAL RESULTS**

Project Location: UMass Dubois Library  
 Date Received: 8/28/2012  
**Field Sample #: DL-OUT-IAS-112**  
**Sample ID: 12H0955-05**  
 Sample Matrix: Air  
 Sampled: 8/28/2012 18:35

Sample Description/Location:  
 Sub Description/Location:  
  
 Flow Controller ID:  
 Sample Type:  
 Air Volume L: 650

**Work Order: 12H0955**

**TO-10A/EPA 680 Modified**

| Analyte                         | Total µg |        | Flag | ug/m3   |        | Dilution | Date/Time Analyzed | Analyst |
|---------------------------------|----------|--------|------|---------|--------|----------|--------------------|---------|
|                                 | Results  | RL     |      | Results | RL     |          |                    |         |
| Monochlorobiphenyls             | ND       | 0.0010 |      | ND      | 0.0015 | 1        | 9/1/12 14:35       | CJM     |
| Dichlorobiphenyls               | ND       | 0.0010 |      | ND      | 0.0015 | 1        | 9/1/12 14:35       | CJM     |
| Trichlorobiphenyls              | ND       | 0.0010 |      | ND      | 0.0015 | 1        | 9/1/12 14:35       | CJM     |
| Tetrachlorobiphenyls            | ND       | 0.0020 |      | ND      | 0.0031 | 1        | 9/1/12 14:35       | CJM     |
| Pentachlorobiphenyls            | ND       | 0.0020 |      | ND      | 0.0031 | 1        | 9/1/12 14:35       | CJM     |
| Hexachlorobiphenyls             | ND       | 0.0020 |      | ND      | 0.0031 | 1        | 9/1/12 14:35       | CJM     |
| Heptachlorobiphenyls            | ND       | 0.0030 |      | ND      | 0.0046 | 1        | 9/1/12 14:35       | CJM     |
| Octachlorobiphenyls             | ND       | 0.0030 |      | ND      | 0.0046 | 1        | 9/1/12 14:35       | CJM     |
| Nonachlorobiphenyls             | ND       | 0.0050 |      | ND      | 0.0077 | 1        | 9/1/12 14:35       | CJM     |
| Decachlorobiphenyl              | ND       | 0.0050 |      | ND      | 0.0077 | 1        | 9/1/12 14:35       | CJM     |
| Total Polychlorinated biphenyls | 0.0      |        |      | 0       |        | 1        | 9/1/12 14:35       | CJM     |

| Surrogates           | % Recovery | % REC Limits |
|----------------------|------------|--------------|
| Tetrachloro-m-xylene | * S-20     | 50-125       |

**Sample Extraction Data**

**Prep Method: SW-846 3540C-TO-10A/EPA 680 Modified**

| <b>Lab Number [Field ID]</b> | <b>Batch</b> | <b>Initial [Cartridge</b> | <b>Final [mL]</b> | <b>Date</b> |
|------------------------------|--------------|---------------------------|-------------------|-------------|
| 12H0955-01 [DL-4E-IAS-108]   | B058009      | 1.00                      | 1.00              | 08/31/12    |
| 12H0955-02 [DL-15E-IAS-109]  | B058009      | 1.00                      | 1.00              | 08/31/12    |
| 12H0955-03 [DL-18E-IAS-110]  | B058009      | 1.00                      | 1.00              | 08/31/12    |
| 12H0955-04 [DL-18ED-IAS-111] | B058009      | 1.00                      | 1.00              | 08/31/12    |
| 12H0955-05 [DL-OUT-IAS-112]  | B058009      | 1.00                      | 1.00              | 08/31/12    |

QUALITY CONTROL

PCB Homologues by GC/MS with Soxhlet Extraction - Quality Control

| Analyte | Total µg |    | ug/m3   |    | Spike Level | Source | %REC | %REC   | RPD | RPD   | Flag |
|---------|----------|----|---------|----|-------------|--------|------|--------|-----|-------|------|
|         | Results  | RL | Results | RL | Total µg    | Result | %REC | Limits | RPD | Limit |      |

Batch B058009 - SW-846 3540C

Blank (B058009-BLK1)

Prepared: 08/31/12 Analyzed: 09/01/12

|                                 |       |        |  |  |       |  |      |        |  |  |  |
|---------------------------------|-------|--------|--|--|-------|--|------|--------|--|--|--|
| Monochlorobiphenyls             | ND    | 0.0010 |  |  |       |  |      |        |  |  |  |
| Dichlorobiphenyls               | ND    | 0.0010 |  |  |       |  |      |        |  |  |  |
| Trichlorobiphenyls              | ND    | 0.0010 |  |  |       |  |      |        |  |  |  |
| Tetrachlorobiphenyls            | ND    | 0.0020 |  |  |       |  |      |        |  |  |  |
| Pentachlorobiphenyls            | ND    | 0.0020 |  |  |       |  |      |        |  |  |  |
| Hexachlorobiphenyls             | ND    | 0.0020 |  |  |       |  |      |        |  |  |  |
| Heptachlorobiphenyls            | ND    | 0.0030 |  |  |       |  |      |        |  |  |  |
| Octachlorobiphenyls             | ND    | 0.0030 |  |  |       |  |      |        |  |  |  |
| Nonachlorobiphenyls             | ND    | 0.0050 |  |  |       |  |      |        |  |  |  |
| Decachlorobiphenyl              | ND    | 0.0050 |  |  |       |  |      |        |  |  |  |
| Total Polychlorinated biphenyls | 0.0   |        |  |  |       |  |      |        |  |  |  |
| Surrogate: Tetrachloro-m-xylene | 0.176 |        |  |  | 0.200 |  | 87.9 | 50-125 |  |  |  |

LCS (B058009-BS1)

Prepared: 08/31/12 Analyzed: 09/01/12

|                                 |       |        |  |  |       |  |      |        |  |  |  |
|---------------------------------|-------|--------|--|--|-------|--|------|--------|--|--|--|
| Monochlorobiphenyls             | 0.17  | 0.0010 |  |  | 0.200 |  | 84.7 | 40-140 |  |  |  |
| Dichlorobiphenyls               | 0.20  | 0.0010 |  |  | 0.200 |  | 98.6 | 40-140 |  |  |  |
| Trichlorobiphenyls              | 0.20  | 0.0010 |  |  | 0.200 |  | 102  | 40-140 |  |  |  |
| Tetrachlorobiphenyls            | 0.42  | 0.0020 |  |  | 0.400 |  | 105  | 40-140 |  |  |  |
| Pentachlorobiphenyls            | 0.41  | 0.0020 |  |  | 0.400 |  | 103  | 40-140 |  |  |  |
| Hexachlorobiphenyls             | 0.40  | 0.0020 |  |  | 0.400 |  | 101  | 40-140 |  |  |  |
| Heptachlorobiphenyls            | 0.61  | 0.0030 |  |  | 0.600 |  | 102  | 40-140 |  |  |  |
| Octachlorobiphenyls             | 0.56  | 0.0030 |  |  | 0.600 |  | 93.1 | 40-140 |  |  |  |
| Nonachlorobiphenyls             | 1.0   | 0.0050 |  |  | 1.00  |  | 104  | 40-140 |  |  |  |
| Decachlorobiphenyl              | 0.98  | 0.0050 |  |  | 1.00  |  | 98.4 | 40-140 |  |  |  |
| Surrogate: Tetrachloro-m-xylene | 0.188 |        |  |  | 0.200 |  | 94.1 | 50-125 |  |  |  |

LCS Dup (B058009-BSD1)

Prepared: 08/31/12 Analyzed: 09/01/12

|                                 |       |        |  |  |       |  |      |        |      |    |  |
|---------------------------------|-------|--------|--|--|-------|--|------|--------|------|----|--|
| Monochlorobiphenyls             | 0.18  | 0.0010 |  |  | 0.200 |  | 90.4 | 40-140 | 6.50 | 50 |  |
| Dichlorobiphenyls               | 0.19  | 0.0010 |  |  | 0.200 |  | 93.5 | 40-140 | 5.28 | 50 |  |
| Trichlorobiphenyls              | 0.19  | 0.0010 |  |  | 0.200 |  | 95.5 | 40-140 | 7.00 | 50 |  |
| Tetrachlorobiphenyls            | 0.39  | 0.0020 |  |  | 0.400 |  | 96.3 | 40-140 | 8.67 | 50 |  |
| Pentachlorobiphenyls            | 0.40  | 0.0020 |  |  | 0.400 |  | 101  | 40-140 | 2.08 | 50 |  |
| Hexachlorobiphenyls             | 0.39  | 0.0020 |  |  | 0.400 |  | 97.1 | 40-140 | 3.77 | 50 |  |
| Heptachlorobiphenyls            | 0.59  | 0.0030 |  |  | 0.600 |  | 99.1 | 40-140 | 3.08 | 50 |  |
| Octachlorobiphenyls             | 0.55  | 0.0030 |  |  | 0.600 |  | 91.9 | 40-140 | 1.26 | 50 |  |
| Nonachlorobiphenyls             | 1.1   | 0.0050 |  |  | 1.00  |  | 106  | 40-140 | 1.32 | 50 |  |
| Decachlorobiphenyl              | 1.0   | 0.0050 |  |  | 1.00  |  | 103  | 40-140 | 5.06 | 50 |  |
| Surrogate: Tetrachloro-m-xylene | 0.194 |        |  |  | 0.200 |  | 97.0 | 50-125 |      |    |  |

**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-20 Surrogate recovery is outside of control limits. Sample media does not allow for re-extraction.





Phone: 413-525-2332  
Fax: 413-525-6405  
Email: info@contestlabs.com  
www.contestlabs.com

# AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST  
EAST LONGMEADOW, MA 01028

Company Name: WOODARD & CURRAN  
Address: 35 N. E. Bus Ave Suite 180  
Andover, MA

Attention: J Hamel, G Frankling & Richard

Project Location: UMA Dubois Library  
Sampled By: Kim Rivard

Proposal Provided? (For Billing purposes)

yes  no proposal date

Telephone: ( )  
Project # 222955  
Client PO #

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT

Fax #: Journal weekend curran.com  
Email: gfrankling@uma.edu  
Format:  EXCEL  PDF  GIS KEY  OTHER

ONLY USE WHEN USING PUMPS

| Field ID | Sample Description | Media | Lab # | Date       |           | Total | Flow Rate | Volume | Matrix | Code* |
|----------|--------------------|-------|-------|------------|-----------|-------|-----------|--------|--------|-------|
|          |                    |       |       | Start Time | Stop Time |       |           |        |        |       |
| 01       | DL-4E-IAS-108      | PUF   |       | 1415       | 1815      | 240   | 2.6       | 624    | EA     | ✓     |
| 02       | DL-15E-IAS-109     | PUF   |       | 1400       | 1800      | 240   | 2.6       | 624    | EA     | ✓     |
| 03       | DL-18E-IAS-110     | PUF   |       | 1410       | 1810      | 240   | 2.6       | 624    | EA     | ✓     |
| 04       | DL-18ED-IAS-111    | PUF   |       | 1405       | 1805      | 240   | 2.6       | 624    | EA     | ✓     |
| 05       | DL-0VF-IAS-112     | PUF   |       | 1425       | 1835      | 250   | 2.6       | 650    | EA     | ✓     |

Laboratory Comments: ① EPA 680 for RLB homologs ② RL 2.0.10 ug/m<sup>3</sup>

③ Standard Test ④ Dubois Elm Lobby Air Sample

CLIENT COMMENTS:

**ANALYSIS REQUESTED**

**Hg**

Please fill out completely, sign, date and retain the yellow copy for your record.

Summa canisters are flow controllers returned within 14 days of receipt or rental will apply.

Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.

Summa Canister ID: \_\_\_\_\_ Flow Controller ID: \_\_\_\_\_

Turnaround \*\*

7-Day  
 10-Day  
 Other (RUSH) \*  
 \*24-Hr  \*48-Hr  
 \*72-Hr  \*4-Day

Special Requirements

Regulations: \_\_\_\_\_  
Data Enhancement/RCP?  Y  N  
Enhanced Data Package  Y  N  
(Surcharge Applies)  
Required Detection Limits: RL 2.0.10 ug/m<sup>3</sup>  
Other: \_\_\_\_\_

\*Matrix Code:

SG = SOIL GAS  
IA = INDOOR AIR  
AMB = AMBIENT  
SS = SUB SLAB  
D = DUP  
BL = BLANK  
O = Other

\*\*Media Codes:

S = Summa can  
TB = Tedlar bag  
P = PUF  
T = Tube  
F = Filter  
C = Cassette  
O = Other

Relinquished by: (signature) [Signature]  
Date/Time: 8/28/12 2025

Received by: (signature) [Signature]  
Date/Time: 8/28/12 2025

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

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



### Sample Receipt Checklist

CLIENT NAME Ward & Curran RECEIVED BY: WF DATE: 8/24/12

- 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 3.9

- 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: \_\_\_\_\_

- 8) Do all samples have the proper Acid pH: Yes No N/A
- 9) Do all samples have the proper Base pH: Yes No N/A
- 10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

### Containers received at Con-Test

|                                | # of containers |  |                       | # of containers |
|--------------------------------|-----------------|--|-----------------------|-----------------|
| 1 Liter Amber                  |                 |  | 8 oz amber/clear jar  |                 |
| 500 mL Amber                   |                 |  | 4 oz amber/clear jar  |                 |
| 250 mL Amber (8oz amber)       |                 |  | 2 oz amber/clear jar  |                 |
| 1 Liter Plastic                |                 |  | Air Cassette          |                 |
| 500 mL Plastic                 |                 |  | Hg/Hopcalite Tube     |                 |
| 250 mL plastic                 |                 |  | Plastic Bag / Ziploc  |                 |
| 40 mL Vial - type listed below |                 |  | PM 2.5 / PM 10        |                 |
| Colisure / bacteria bottle     |                 |  | PUF Cartridge         | 5               |
| Dissolved Oxygen bottle        |                 |  | SOC Kit               |                 |
| Encore                         |                 |  | TO-17 Tubes           |                 |
| Flashpoint bottle              |                 |  | Non-ConTest Container |                 |
| Perchlorate Kit                |                 |  | Other glass jar       |                 |
| Other                          |                 |  | Other                 |                 |

Laboratory Comments: \_\_\_\_\_

|  |                             |
|--|-----------------------------|
| 40 mL vials: # HCl _____ # Methanol _____<br># Bisulfate _____ # DI Water _____<br># Thiosulfate _____ Unpreserved _____ | Time and Date Frozen: _____ |
|--|-----------------------------|

Doc# 277  
 Rev. 3 May 2012