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February 27, 2013

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

Re: Long-Term Monitoring and Maintenance Implementation – 2012 Monitoring Results
University of Massachusetts, Amherst, Massachusetts

Dear Ms. Tisa:

This report has been prepared to document the results from the 2012 long term monitoring activities conducted at the following projects on the University of Massachusetts (UMass) Amherst Campus:

- Tobin Hall Deck – The Monitoring and Maintenance Implementation Plan (MMIP) was submitted on March 13, 2012 in accordance with Condition 8 of the United States Environmental Protection Agency's (EPA) PCB Risk-Based Decontamination and Disposal Approval under 40 CFR 761.61 (c) and 761.79 (h) dated February 28, 2012;

- Webster House – The MMIP was submitted on January 5, 2012 in accordance with Condition 16 of the EPA's PCB Decontamination and Disposal Approval under 40 CFR 761.61 (c) and 761.79 (h) dated July 4, 2011;

- Southwest Concourse – The MMIP was submitted on December 29, 2010 in accordance with Condition 13 of the EPA's Southwest Residential Area Concourse PCB Cleanup and Disposal Approval under 40 CFR 761.61 (a) and (c) and 761.79 (h) dated August 30, 2010 (including those areas described in the PCB Remediation Plan Amendment dated May 9, 2011); and

- Field and Grayson Houses – The MMIP was submitted on April 24, 2012 as part of the PCB Remediation Plan/Close Out Document for Field and Grayson House by ATC Associates, Inc.

As previously discussed, the activities conducted in support of the monitoring and maintenance activities are being submitted under a single cover to streamline reporting and review of these activities.

An overall summary of the 2012 activities is provided on the following pages with details of the specific projects included in individual project reports provided as attachments to this letter.

MONITORING AND MAINTENANCE IMPLEMENTATION PLAN

For each of the projects included in this report, certain building materials formerly in direct contact with or adjacent to former PCB caulking were encapsulated using liquid coatings and/or physical barriers (i.e., sheet metal cladding) as a risk-based management approach under 40 CFR 761.61(c) where it was determined that physical removal was an infeasible remedial approach. This included both porous masonry surfaces in former direct contact with the caulking (i.e., coated) as well as a limited extent of masonry materials beyond the former joints.

The main components of each plan include the following:

- Visual inspections of the encapsulated surfaces will be performed to look for signs of encapsulant deterioration, breakages, wear, and/or signs of weathering or disturbance of the replacement caulking or other secondary physical barriers;
- Surface wipe samples of the encapsulated surfaces will be collected using a hexane-soaked wipe following the standard wipe test procedures described in 40 CFR 761.123;
- If results of the visual inspections indicate significant deterioration, or if surface wipe sampling results indicate that PCB concentrations above the established action levels are present on any encapsulated surfaces, corrective measures may be taken according to the follow criteria:
    - At locations where sample results are reported with PCBs ≤ 1 microgram per 100 square centimeters (µg/100 cm^2), no corrective measures will be implemented.
    - At locations where significant encapsulant deterioration is observed or sample results are reported with PCBs ≥ 10 µg/100 cm^2, corrective actions, potentially to include an additional application of liquid coating and the collection of follow-up wipe samples, will be initiated. Results of the monitoring will be communicated to EPA for consultation regarding the appropriate corrective measures.
    - At locations where sample results are reported with PCBs > 1 and < 10 µg/100 cm^2, this location will be selected for follow-up monitoring during the next round of sampling to establish patterns or trends in concentrations. If increasing concentrations are determined, then additional coatings may be applied and/or alternative solutions will be discussed with EPA.
- A monitoring report will be prepared and submitted to EPA to document the results of the visual inspections and sampling activities, as well as to provide any recommendations for corrective measures based on the results of the visual inspections or laboratory analytical results. The report will also include a statement on the continued effectiveness of the encapsulants and/or secondary physical barriers; and will include any proposed modifications to the MMIP.

MONITORING ACTIVITIES – AUGUST 2012

Woodard & Curran performed the following monitoring activities between August 2 and 20, 2012:

- Tobin Hall Deck – A visual inspection of the encapsulated concrete wall surface was performed and one verification wipe sample collected;
- Webster House – A visual inspection of the encapsulated interior elevator lobby walls and the metal cladding/window frames on the northwest building elevation was performed and three verification wipe samples collected from the interior lobby walls;
- Southwest Concourse – A visual inspection of encapsulated concrete building walls, retaining walls, and concrete within the pedestrian tunnel was conducted and 19 verification wipe samples collected from representative locations throughout the project area; and
- Field and Grayson Houses – A visual inspection of encapsulated concrete parapet wall materials at the roofline of the buildings was performed.

RESULTS

A summary of the results of the 2012 monitoring activities for each project is included in Attachments 1 through 4 to this letter. A summary of the verification wipe sample results is presented on Table 1 and the complete analytical laboratory reports, along with a data validation summary, are provided in Attachment 5.

The 2012 inspection and sampling results indicate that where the liquid coatings and secondary barriers remain in good physical condition, the residual concentrations of PCBs in the masonry continue to be effectively encapsulated/contained.

As described in Attachment 3, relatively minor flaking and peeling were observed in the liquid epoxy and clear acrylic coatings applied to concrete surfaces in the Southwest Concourse Area. These isolated areas will be subsequently addressed as described in Attachment 3 of this letter report.

The next monitoring events will be performed in the summer 2013 in accordance with the individual project MMIPs.

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

Sincerely,

WOODARD & CURRAN INC.

Jeffrey A. Hamel, LSP, LEP
Senior Vice President

cc: Terri Wolejko, UMass EH&S

Enclosures: Table 1 – Summary of Verification Wipe Sample Results
Attachment 1 – Tobin Hall Deck
Attachment 2 – Webster House
Attachment 3 – Southwest Concourse
Attachment 4 – Field and Grayson Houses
Attachment 5 – Data Validation Summary and Analytical Laboratory Reports

Table 1
Summary of Verification Wipe Sample Results
Long Term Monitoring Activities - UMass Amherst

Liquid Coating	Sample Date	Sample ID	Total PCBs (µg/100cm^2)	Surface Type/location
Tobin Hall Deck				
Sikagard 670W	8/9/2012	LTM-TH-VWC-004	< 0.20	Concrete wall, north of stairs
Webster House - Elevator Hall Interior Windows				
Sikagard 550W	8/9/2012	LTM-WH-VWC-001	< 0.20	7th floor, east side, LH vertical joint
	8/9/2012	LTM-WH-VWC-002	< 0.20	5th floor, west side, RH vertical joint
	8/9/2012	LTM-WH-VWC-003	< 0.20	3rd floor, west side, upper horizontal joint
Southwest Concourse - Berkshire Plaza				
Sikagard 62 Epoxy	8/15/2012	LTM-SWC-VWC-012	< 0.20	Retaining Wall
	8/15/2012	LTM-SWC-VWC-013	< 0.20	Stairs
	8/15/2012	LTM-SWC-VWC-015	< 0.20	Building Wall
Sikagard 670W	8/15/2012	LTM-SWC-VWC-011	< 0.20	Retaining Wall
	8/15/2012	LTM-SWC-VWC-014	< 0.20	Stairs
	8/15/2012	LTM-SWC-VWC-016	< 0.20	Building Wall
Southwest Concourse - Hampshire Plaza				
Sikagard 62 Epoxy	8/15/2012	LTM-SWC-VWC-005	< 0.20	Building Wall
	8/15/2012	LTM-SWC-VWC-007	< 0.20	Retaining Wall
	8/15/2012	LTM-SWC-VWC-009	< 0.20	Stairs
Sikagard 670W	8/15/2012	LTM-SWC-VWC-006	< 0.20	Building Wall
	8/15/2012	LTM-SWC-VWC-008	< 0.20	Retaining Wall
	8/15/2012	LTM-SWC-VWC-010	< 0.20	Stairs
Southwest Concourse - Washington Plaza				
Sikagard 62 Epoxy	8/20/2012	LTM-SWC-VWC-017	0.24	Building Wall
	8/15/2012	LTM-SWC-VWC-020	**1.4**	Stairs
Sikagard 670W	8/15/2012	LTM-SWC-VWC-018	< 0.20	Building Wall
	8/15/2012	LTM-SWC-VWC-019	< 0.20	Retaining Wall
	8/15/2012	LTM-SWC-VWC-021	< 0.20	Stairs
Southwest Concourse - Pedestrian Tunnel				
New Caulking coated with Elastomeric Acrylic Paint	8/15/2012	LTM-SWC-VWC-022	**1.6**	New caulking coated with elastomeric acrylic paint
Sikagard 62 Epoxy and Elastomeric Acrylic Paint	8/15/2012	LTM-SWC-VWC-023	< 0.20	Adjacent Concrete coated with Sikagard 62 epoxy and elastomeric acrylic paint

Note:
All samples extracted by method 3540C and analyzed for PCBs by USEPA Method 8082.
Wipe samples collected in accordance with the standard wipe test method of 40 CFR 761.123.
Total PCBs reported as Aroclor 1248 or Aroclor 1254. No other Aroclors reported above the laboratory minimum reporting limit.

Attachment 1 – Tobin Hall Deck

Attachment 1 – Tobin Hall Deck
Long-Term Maintenance and Monitoring Program
In-Place Management of PCB Impacted Materials
UMass Amherst

Building/Location: Tobin Hall

Summary of Remedial Areas

In-Place Management: Residual PCBs on a building wall are being managed in place following removal of concrete decking on the west side of Tobin Hall. Concrete materials that contain PCBs at concentrations above 1 ppm remain beneath a liquid encapsulating coating (residual PCB concentration in masonry reported at a concentration of 2.37 ppm). The encapsulation extends to a distance of six inches above and six inches below the former caulked joint along approximately 80 linear feet (l.f.) of the Tobin Hall building wall. Materials were encapsulated with two coats of clear Sikagard 670W acrylic coating. The locations of the encapsulated surfaces are depicted on Figure 1-1 and shown in the photo below.

Concrete Wall to North of Main Stairway

Baseline Verification Data Summary: Two initial baseline wipe samples were collected in August 2011. Analytical results reported as non-detect (< 0.20 µg/100 cm^2) in both samples.

Monitoring and Maintenance Implementation Plan

The Monitoring and Maintenance Implementation Plan (MMIP) was submitted to EPA in March 2012 and included visual inspections and verification wipe sampling.

Verification wipe sampling of the encapsulated surfaces include the collection of two verification wipe samples from the encapsulated surfaces (one from the northern portion of the wall and one from the southern portion of the wall). The locations will be randomly selected using a number between 0 and 40 (representing the length of the individual joints in feet). Wipe samples will be collected using a hexane-soaked wipe following the standard wipe test procedures described in 40 CFR 761.123 over a 100 square centimeter surface area.

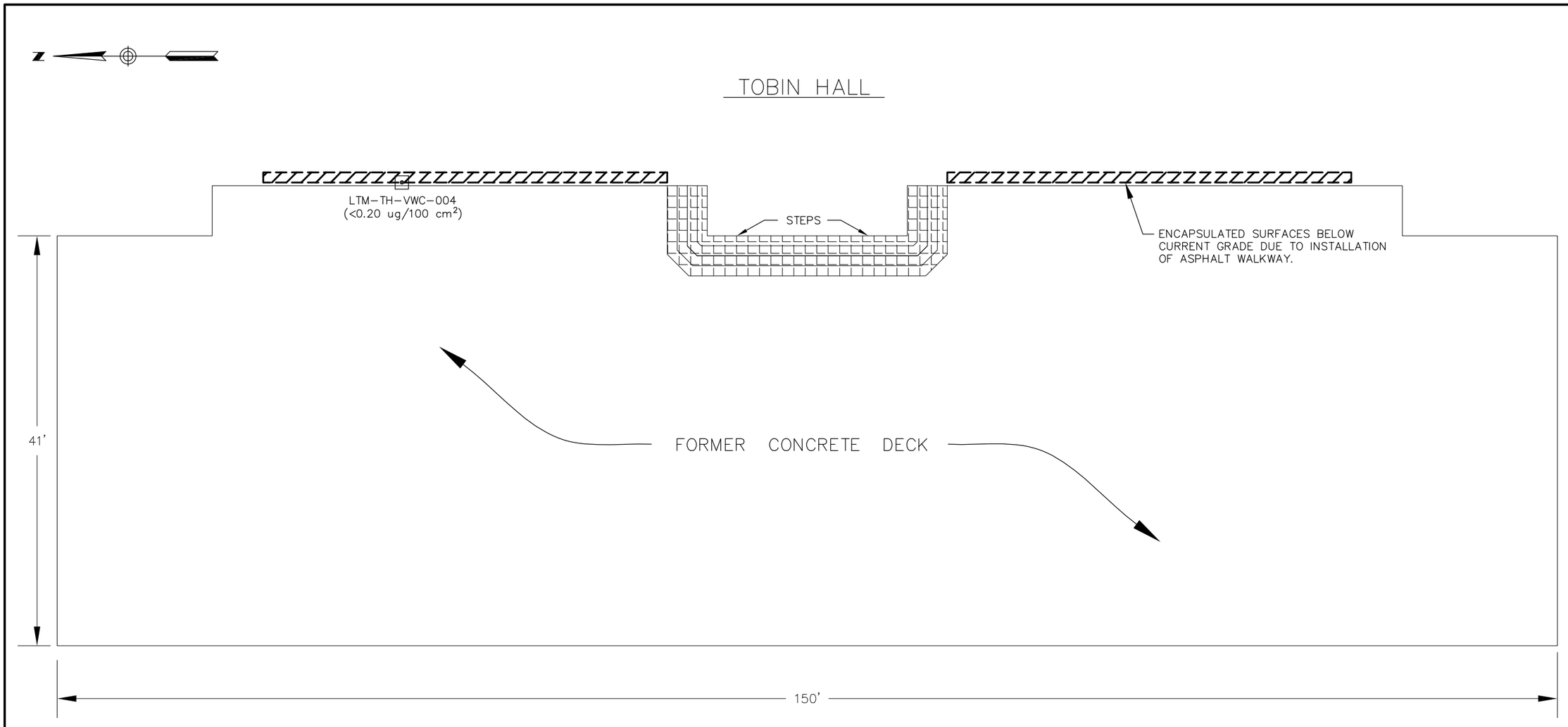
Attachment 1 – Tobin Hall Deck
Long-Term Maintenance and Monitoring Program
In-Place Management of PCB Impacted Materials
UMass Amherst

Monitoring Activities – August 2012

On August 9, 2012, coated concrete materials remaining above grade were inspected for signs of deterioration or damage to the Sikagard 670W clear coat. The southern portion of the coated areas was not accessible due to the installation of an asphalt pedestrian walkway to a level above the extent of the coating. Along the northern wall, the coating was observed to be in good condition with one small, isolated area of limited deterioration directly adjacent to a hose connection possibly due to physical impacts to the coating during connection and disconnection of the hoses during construction activities in the area. One verification wipe sample was collected from the northern side of the encapsulated area. The location of the verification wipe sample is depicted on Figure 1-1 and the results indicated no PCBs were detected (< 0.20 µg/100cm^2).

Corrective Actions

Apply additional coating to the isolated area of deterioration as part of routine maintenance activities in 2013.



LEGEND

AREA OF TOBIN HALL CONCRETE ENCAPSULATION TO A DISTANCE OF 6" ABOVE AND 6" BELOW CAULKED JOINT OVER 80 LINEAR FEET

LTM-TH-VWC-004 ⊡ CONCRETE BUILDING WALL WIPE SAMPLE LOCATION AND IDENTIFIER (REPORTED PCBs CONCENTRATIONS IN PARENTHESIS)

16' 12' 8' 4' 0 12' 24'

BAR SCALE
3/32" = 1'-0"
CHECK GRAPHIC SCALE BEFORE USING

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ENCAPSULATED BUILDING SURFACES AND VERIFICATION WIPE SAMPLE LOCATION

CHECKED BY: GJF
FIGURE 1-1.DWG

DESIGNED BY:
DRAWN BY:

UNIVERSITY OF MASSACHUSETTS
AMHERST, MASSACHUSETTS

2012 TOBIN HALL PCB MMIP REPORT

JOB NO: 225695
DATE: FEBRUARY 2013
SCALE: AS NOTED

FIGURE 1-1

Attachment 2 – Webster House

Attachment 2 – Webster House
Long-Term Maintenance and Monitoring Program
In-Place Management of PCB Impacted Materials
UMass Amherst

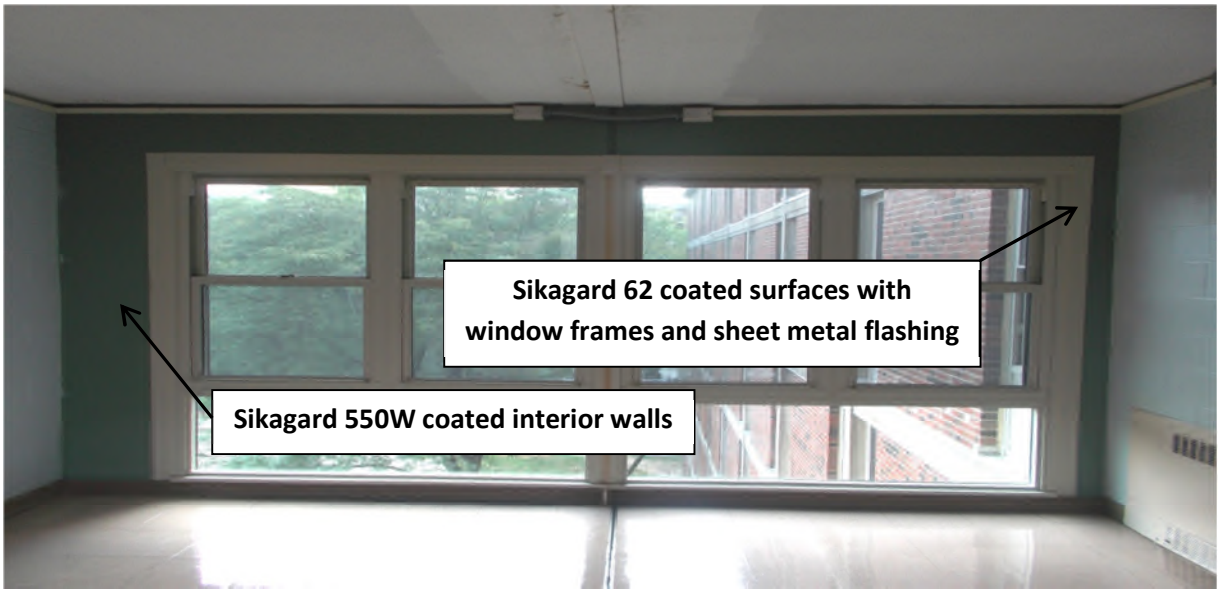
Location: Orchard Hill Residential Area **Building:** Webster House

Summary of Remedial Areas

In-Place Management: Residual PCBs are being managed in place at concentrations > 1 ppm following window replacement activities at the following locations:

- Elevator Lobby Interior Walls (maximum residual PCB concentration in masonry 7.2 ppm) – Concrete materials formerly in direct contact with caulking and to a distance of four inches from the caulked joint were encapsulated with two coats of grey Sikagard 62 epoxy coating and subsequently covered by the newly installed metal window frames and sheet metal flashing. Remaining interior wall materials to the first 90-degree angle were encapsulated with two coats of green Sikagard 550W acrylic coating.
- Northwest Elevation Exterior Concrete Ceiling (maximum residual PCB concentration in masonry 4.3 ppm) – Materials formerly in direct contact with caulking along 100 l.f. of ribbon type windows on the northwest building elevation were encapsulated with two coats of grey Sikagard 62 epoxy coating and subsequently covered by the newly installed metal window frames.

The locations of the encapsulated surfaces are depicted on Figure 2-1. The encapsulated surfaces associated with the elevator lobby windows are shown in the photo below.



Elevator Lobby Walls

Baseline Verification Data Summary: Following remediation activities, baseline verification samples were collected as follows:

- Elevator Hall Interior Walls:
  - Sikagard 62 epoxy Coated Materials – In July 2011, prior to installation of the window frames and sheet metal cladding, six verification wipe samples were collected from encapsulated surfaces. Analytical results reported PCBs as non-detect (< 0.20 µg/100 cm^2) in the six samples collected.
  - Sikagard 550W Coated Materials – Six initial baseline wipe samples were collected in November 2011. Analytical results reported PCBs as non-detect (< 0.20 µg/100 cm^2) in all six samples.

- Northwest Elevation Exterior Concrete Ceiling Direct Contact Materials: Prior to installation of the sheet metal cladding, three verification wipe samples were collected from encapsulated surfaces. Analytical results reported PCBs as non-detect (< 0.20 µg/100 cm^2) in the three samples collected.

Monitoring and Maintenance Implementation Plan

The Monitoring and Maintenance Implementation Plan (MMIP) was submitted to EPA in January 2012 and included visual inspections and verification wipe sampling.

Based on the baseline sample results (all non-detect for PCBs) and encapsulated areas subsequently covered by window frames and sheet metal cladding associated with the new window installation, the only accessible encapsulate (areas are the interior CMU block walls in the elevator lobby areas. Surface wipe samples of these encapsulated (Sikagard 550W) interior CMU block walls will be collected using a hexane-soaked wipe following the standard wipe test procedures described in 40 CFR 761.123. A total of three samples will be collected from randomly selected locations as follows:

- The specific floor and the side of the elevator hall to be sampled will be randomly selected using a random number generator;
- The location of the wipe sample on the joint will be selected by randomly selecting a number between 0 and 25 (representing the two 6.5 foot long vertical joints and the upper 12 foot long horizontal joint) with the zero point assigned to the bottom of the left vertical joint and proceeding clockwise around the window (i.e., 25 would be assigned to the bottom of the right vertical joint); and
- The distance of the wipe sample from the sheet metal cladding will then be selected by randomly selecting a number from zero to the total distance, in inches, to the first 90-degree angle.

Monitoring Activities – August 2012

Monitoring activities were conducted on August 9, 2012. No signs of damage were observed to the sheet metal cladding and window frames on the northwest building elevation. Sheet metal cladding and liquid coatings in the elevator lobby areas were observed to be in good condition with no signs of wear or damage. Wipe samples were collected from the coated CMU block walls on the 3rd, 5th, and 7th floors. Analytical results were all non-detect as presented in the table below.

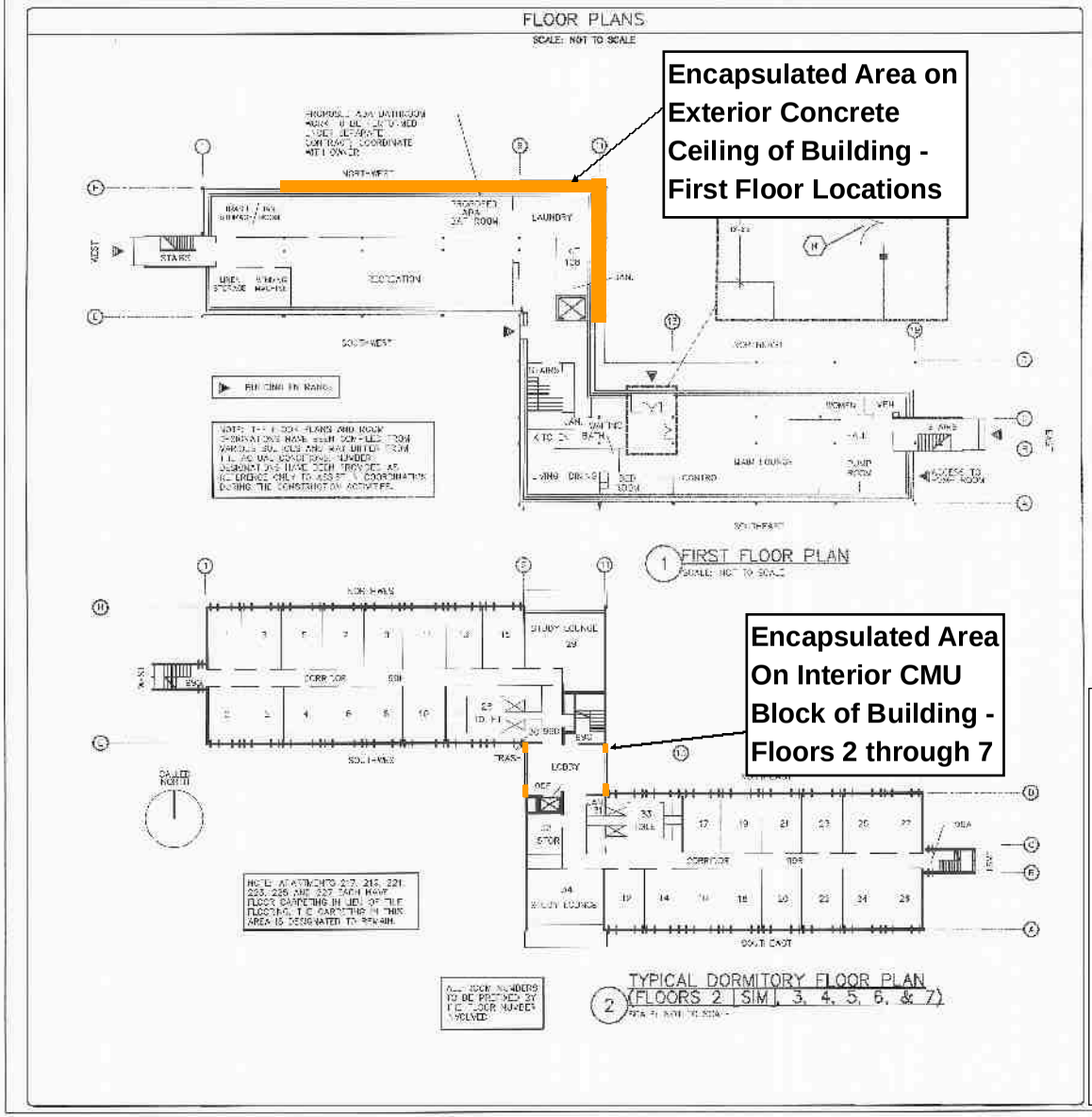
Date of Inspection	Visual Inspection Results	Wipe Sample Identification	Wipe Sample Results (µg/100cm^2)
August 9, 2012	No damage or deterioration observed	LTM-WH-VWC-001	< 0.20
		LTM-WH-VWC-002	< 0.20
		LTM-WH-VWC-003	< 0.20

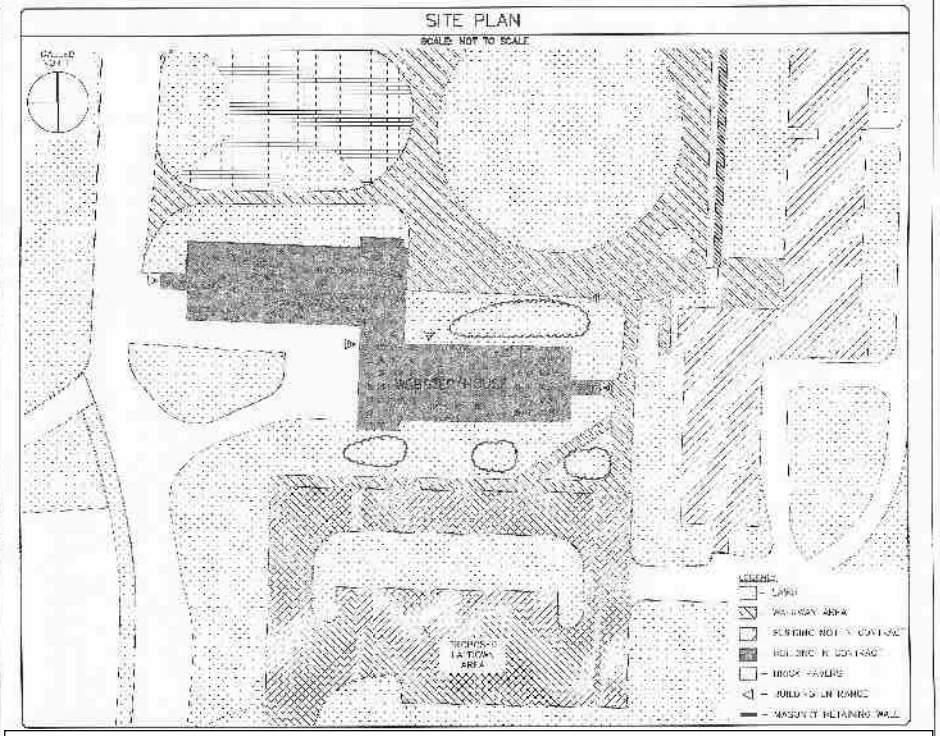
Corrective Actions

No corrective action required at this time.

Figure 2-1 Encapsulated Building Surfaces

Drawing details taken from Webster House Window Replacement drawing D-A-333-10-001711-01-T2 dated February 3, 2011 by Gale Associates, Inc. of Weymouth, Massachusetts.





Attachment 3 – Southwest Concourse

Attachment 3 – Southwest Concourse Area
Long-Term Maintenance and Monitoring Program
In-Place Management of PCB Impacted Materials
UMass Amherst

Location: Southwest Concourse Area

Areas: Hampshire Plaza, Berkshire Plaza, Washington Plaza, MacKimme House/Stonewall Center

Summary of Remedial Areas

In-Place Management: Residual PCBs on building walls and retaining walls are being managed in place at concentrations > 1 ppm following removal of caulking, soils, and concrete decking along retaining walls and ground level structures throughout the Southwest Concourse Area as follows:

- Retaining Walls and Ground Level Structures (maximum residual PCB concentrations in masonry 292 ppm)
    - Planned Sub-grade areas – Concrete materials formerly in direct contact with the caulked joint, to a minimum distance of 12 inches below the caulked joint, and to a distance equivalent to the planned final finished grade above the caulked joint (if the final grade was above the former caulked joint) were encapsulated with two coats of tan Sikagard 62 colored epoxy.
    - Planned Above-grade areas – Concrete materials to a minimum distance of 12 inches above the caulked joint or planned finished grade were encapsulated with two coats of clear Sikagard 670W acrylic coating.

- Concrete Ceiling of Pedestrian Tunnel (max residual PCB concentration in masonry of 309 ppm) – Concrete materials formerly in direct contact with the caulking and to a distance of 12 inches from the caulked joint were encapsulated with two coats of tan Sikagard 62 epoxy coating. Following application of the epoxy, a new bead of caulking was installed within the joint and a final top coat of a white elastomeric acrylic coating was applied to the entire tunnel ceiling.

The locations of the encapsulated surfaces are depicted on Figure 3-1 and typical applications are shown in the photos below.

Typical Retaining Wall Application

Typical Stair Application
(shadow from railing visible as dark area)

Attachment 3 – Southwest Concourse Area
Long-Term Maintenance and Monitoring Program
In-Place Management of PCB Impacted Materials
UMass Amherst

Baseline Verification Data Summary: Initial baseline wipe samples were collected in July and August 2010 (majority of the Southwest Concourse Area) and in July and August 2011 (areas included in the PCB Remediation Plan Amendment). A summary of analytical results from the baseline sampling is as follows:

- Sikagard 62 Epoxy Encapsulated Surfaces – 67 of 69 samples reported as non-detect (the two samples of former direct contact materials in the pedestrian tunnel reported PCBs at concentrations of 7.16 and 24 µg/100 cm^2; however, these areas were subsequently covered with a new bead of caulking and a final acrylic coat).
- Sikagard 670W Acrylic Coating Encapsulated Surfaces – 64 of 64 samples collected from above grade locations were reported as non-detect.
- Encapsulated Concrete Building Foundations (July and August 2011) – 6 of 7 samples collected at grade (both epoxy and clear coated surfaces) reported as non-detect and one sample reported at a concentration of 4 µg/100 cm^2; however, materials in this area were recoated and results from the follow-up wipe samples indicated PCBs were non-detect.

Monitoring and Maintenance Implementation Plan

The Monitoring and Maintenance Implementation Plan (MMIP) was submitted to EPA in December 2010 with a final response to comments on the plan submitted in January 2011. The MMIP included visual inspection and wipe sampling. A summary of the inspection and monitoring requirements is as follows:

Verification Wipe Sampling for each of the encapsulated surfaces will be conducted using a hexane-soaked wipe following the standard wipe test procedures described in 40 CFR 761.123. Samples will be collected as follows:

- Concrete Structures (retaining walls and ground surface structures):
    - Sub-grade areas (Sikagard 62 epoxy) – Given the inaccessibility to these areas and that all 67 baseline wipe samples were non-detect for PCBs, no long term monitoring samples were proposed from these areas. However, due to modifications to the final site grade during construction, areas encapsulated with the Sikagard 62 liquid epoxy coating remain visible above grade over select portions of the Southwest Concourse. As such, both visual inspections of the epoxy coating and collection of verification wipe samples will be added to the program similar to the planned above grade areas; and
    - Above-grade areas (Sikagard 670W acrylic) – Nine wipe samples from randomly selected locations throughout the concourse area are to be collected. One sample will be collected from each type of concrete structure (retaining walls, building walls, walls along stairs) within each of the three major subdivisions of the concourse area (Hampshire Plaza, Berkshire Plaza, and Washington Plaza).
- Concrete Ceiling of the Pedestrian Tunnel – Two wipe samples will be collected from materials within the tunnel as follows:
    - One sample from the new caulking; and
    - One sample from the adjacent coated concrete.

Monitoring Activities – August 2012

Visual inspection and verification wipe sampling of encapsulated surfaces was conducted in accordance with the MMIP as described above between August 15, 2012 and August 20, 2012 and on January 4, 2013. Results of the monitoring activities are summarized below:

Visual Inspection: Results of the visual inspections are as follows:

- Sikagard 62 Liquid Epoxy: The visual inspection conducted found no evidence of significant peeling, breakage, or brittleness of the coating. However, some damage was observed at a few isolated exterior locations. Areas of observed deterioration appear to be related to physical impacts to the coating (e.g., impacts from a metal grate at the Kennedy House). Locations of these areas are depicted on Figure 3-1.

- Sikagard 670W: Visual inspection of the clear acrylic coating indicated that the coating remains in good condition over the majority of the encapsulated surfaces. Where present, areas of flaking and peeling were limited to isolated areas typically 4 to 6 inches in size (some areas were observed up to 1 foot in size). More widespread flaking and peeling was observed at two locations: the concrete retaining wall north of the Cance House, and the concrete building wall on the northeast face of the southwest end of the MacKimme House. In addition, areas of flaking and peeling of the Sikagard 670W on the concrete building wall on the southeast corner of the Crampton House appeared to be co-located with areas of visible concrete efflorescence (note, concrete efflorescence was also observed on this building wall outside the limits of the clear coat application).

  The locations in which flaking and peeling were observed are depicted on Figure 3-1 (Note: the areas depicted are intended to indicate concrete surfaces on which limited areas of flaking and peeling described above were observed).

- Concrete Ceiling of Pedestrian Tunnel: Visual inspection indicated that the coatings and caulking installed within the joint were in good condition. No deterioration was observed.

Verification Wipe Samples: Verification wipe samples were collected from concrete surfaces coated with the Sikagard 62 liquid epoxy coating and the Sikagard 670W clear acrylic coating in the Southwest Concourse area and from concrete coated with the Sikagard 62 liquid epoxy coating, caulking, and a final elastomeric acrylic coating in the pedestrian tunnel. Wipe samples were collected from coated surfaces without observed flaking and peeling. The locations of the verification wipe samples are presented on Figure 3-1. Analytical results are presented in Table 1 of the letter report. A summary of the samples collected is as follows:

- Sikagard 62 Liquid Epoxy: Wipe samples were collected from representative locations within each of the three main plazas in the Southwest Concourse area. A total of eight wipe samples were collected from concrete retaining walls (2 samples), building walls (3 samples), and concrete along stairs (3 samples). Analytical results were as follows:
  - PCBs were either non-detect (six samples at < 0.20 µg/100 cm^2) or at a concentration < 1 µg/100 cm^2 (total PCBs reported as 0.24 µg/100 cm^2) in seven of the eight samples collected; and
  - PCBs were reported at a concentration > 1 and < 10 µg/100 cm^2 in sample LTM-SWC-VWC-020 collected from concrete along a stairway in the Washington Plaza with a reported concentration of 1.4 µg/100 cm^2.

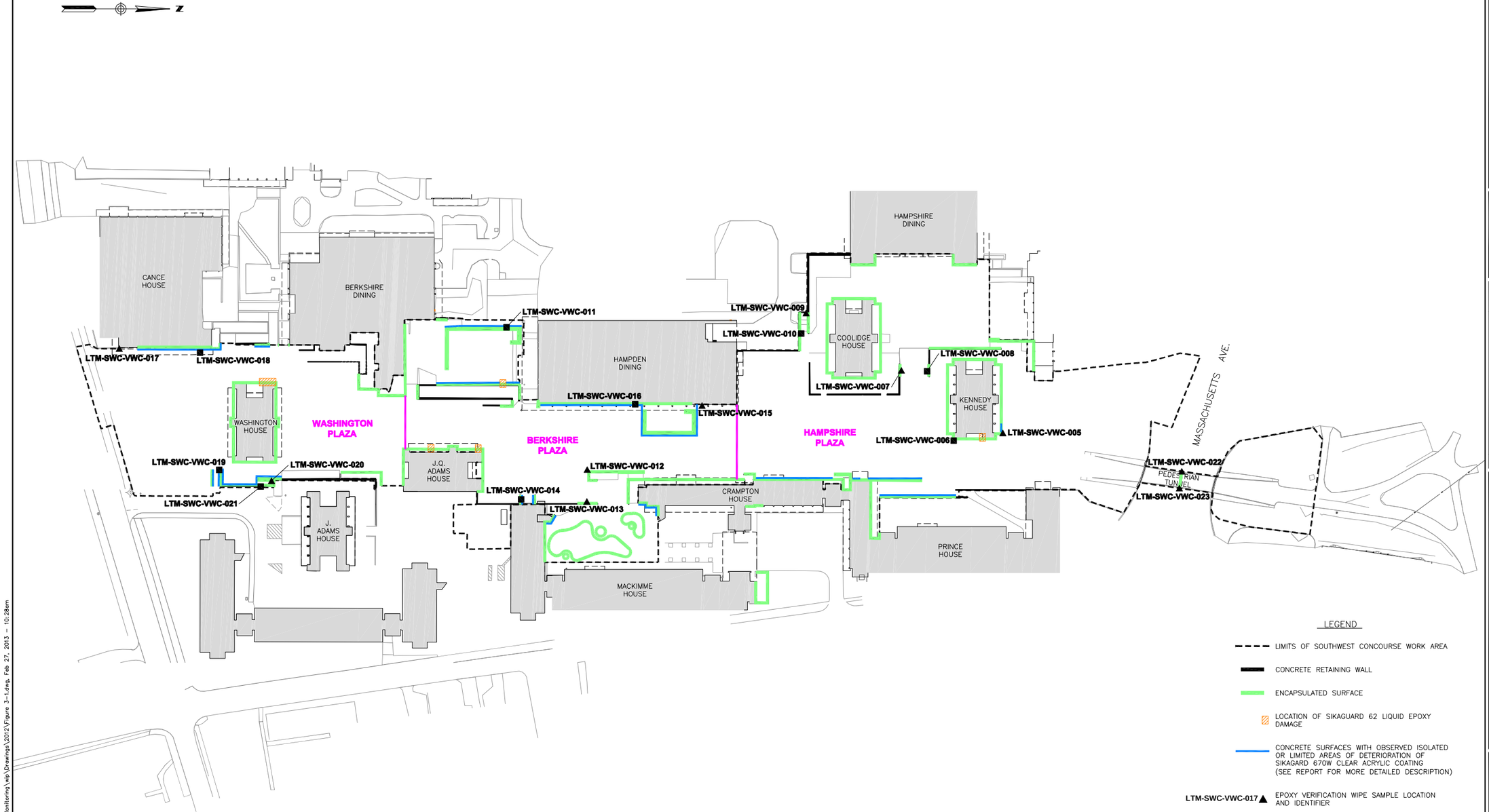
- Sikagard 670W: One wipe sample was collected from each of the three main divisions of concrete surfaces in each of the three plazas within the Southwest Concourse area (total of nine samples). Analytical results indicated that PCBs were non-detect (< 0.20 µg/100 cm^2) in all nine samples collected.
- Concrete Ceiling of Pedestrian Tunnel: One wipe sample was collected from the caulked joint and one wipe sample was collected from coated concrete adjacent to the joint. Analytical results indicated that PCBs were non-detect (< 0.20 µg/100 cm^2) in the sample collected from the adjacent concrete and 1.6 µg/100 cm^2 in the sample from the new caulking.

Based on these results, the liquid coatings applied to concrete surfaces in the Southwest Concourse and the pedestrian tunnel continue to be effective in encapsulating residual PCBs where the coatings remain in good condition.

Corrective Actions

With regard to the Sikagard 670W clear acrylic coatings, UMass and a representative from the Sika Corporation inspected the areas to evaluate potential causes for the isolated areas of flaking or peeling. Results of the inspection indicated that the flaking and peeling may have been due to insufficient surface preparation, inadequate coat thickness during initial application, and/or moisture levels in the concrete.

Following the inspection and review of the findings, UMass has decided to conduct pilot test activities to evaluate alternatives for additional coatings (i.e., surface preparation means and methods, alternative coatings, etc.). Details of the pilot test activities are to be developed during the next few months for implementation in the spring 2013. Results of the pilot test will be used to develop a corrective action plan for areas observed to be flaking and peeling throughout the Southwest Concourse. Results of the pilot test and subsequent corrective actions will be included in the next long term monitoring report for the Southwest Concourse.



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REV	DESCRIPTION	DATE
DESIGNED BY:	ALW	
DRAWN BY:	EVR	CHECKED BY: JAH
		Figure 3-1.dwg

AREAS OF ENCAPSULATED SURFACES AND OBSERVED DETERIORATION

UNIVERSITY OF MASSACHUSETTS
AMHERST, MASSACHUSETTS

2012 SOUTHWEST CONCOURSE PCB MMIP REPORT

JOB NO.:	225695
DATE:	FEBRUARY 2013
SCALE:	AS NOTED
SHEET:	OF

FIGURE 3-1

Attachment 4 – Field and Grayson Houses

Attachment 4 – Field and Grayson Houses
Long-Term Maintenance and Monitoring Program
In-Place Management of PCB Impacted Materials
UMass Amherst

Location: Orchard Hill Residential Area **Building:** Field and Grayson Houses

Details of In-Place Management: PCBs are being managed in place at concentrations > 1 ppm following the removal of caulking from parapet wall masonry joints (total of approximately 290 linear feet) as part of the roof repair activities conducted in 2010 at the Field and Grayson Houses. Two coats of Sikagard 62 liquid epoxy coating were applied to concrete materials formerly in direct contact with and to a distance of 6 inches from the joints in either direction.

Baseline Verification Data Summary: Initial wipe samples collected in August 2010 following application of the Sikagard 62 epoxy. Analytical results from the 26 wipe samples collected indicated that PCBs were non-detect (24 samples at < 0.20 µg/100cm^2) or < 1 µg/100cm^2 (2 samples with total PCBs reported at concentrations of 0.44 and 0.90 µg/100cm^2).

Monitoring and Maintenance Implementation Plan: Plan submitted to EPA in the PCB Remediation Plan/Close Out Document on April 24, 2012.

Monitoring Requirements: As described in the PCB Remediation Plan/Close Out Document, long term monitoring is to consist of visual inspection of masonry joints along the roof lines annually from the ground. Due to the access restrictions verification wipe samples are not included in the long term monitoring.

Action Levels: In areas where damage or deterioration of the encapsulant or caulking is observed, additional coatings will be applied.

Monitoring Activities – August 2012

On August 9, 2012, coated concrete materials were inspected for signs of deterioration or damage to the Sikagard 62 liquid epoxy coating. No areas of damaged, flaking, or peeling were observed.

Corrective Actions

None required.

Attachment 5 – Data Validation Summary and Analytical Laboratory Reports

UMASS AMHERST LONG TERM MONITORING - PROJECT SUMMARY

Con-Test Analytical Laboratory Job Numbers: 12H0301, 12H0548, and 12H0712

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 0.6, 3.0 and 6.0 degrees Celsius. Although some samples were received below 2.0 degrees Celsius, they were wipe samples, and no qualifications will be applied.

PCBs:

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB surrogates met acceptance criteria. No qualifications will be applied.

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications will be applied.

No PCB field blank samples were submitted with these analytical packages. No qualifications will be applied.

No PCB matrix spike/matrix spike duplicate (MS/MSD) were performed on a sample from these analytical packages. No qualifications will be applied.

The PCB laboratory control samples/laboratory control sample duplicates (LCS/LCSD) met acceptance criteria. No qualifications will be applied.

PCB field duplicate samples LTM-SWC-VWC-017 (12H0712-01)/LTM-SWC-VWCD-024 (12H0712-02) met acceptance criteria. No qualifications will be applied.

The relative percent difference (RPD) between the column results for all detected PCBs met acceptance criteria. No qualifications will be applied.

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

Gloria J. Switalski:
President

Date: 10/2/2012

Project # 225695

con-test® ANALYTICAL LABORATORY
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August 15, 2012

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

Project Location: UMA - LT MMIP
Client Job Number:
Project Number: 224867
Laboratory Work Order Number: 12H0301

Enclosed are results of analyses for samples received by the laboratory on August 9, 2012. 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: 8/15/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224867

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12H0301

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

PROJECT LOCATION: UMA - LT MMIP

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
LTM-WH-VWC-001	12H0301-01	Wipe		SW-846 8082A	
LTM-WH-VWC-002	12H0301-02	Wipe		SW-846 8082A	
LTM-WH-VWC-003	12H0301-03	Wipe		SW-846 8082A	
LTM-TH-VWC-004	12H0301-04	Wipe		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.

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

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

Project Location: UMA - LT MMIP | Sample Description: | Work Order: 12H0301

Date Received: 8/9/2012

Field Sample #: LTM-WH-VWC-001 | Sampled: 8/9/2012 09:50

Sample ID: 12H0301-01

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	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:22	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:22	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:22	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:22	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:22	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:22	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:22	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:22	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:22	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	88.8	30-150		8/14/12 18:22
Decachlorobiphenyl [2]	87.9	30-150		8/14/12 18:22
Tetrachloro-m-xylene [1]	92.1	30-150		8/14/12 18:22
Tetrachloro-m-xylene [2]	94.0	30-150		8/14/12 18:22

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Project Location: UMA - LT MMIP | Sample Description: | Work Order: 12H0301

Date Received: 8/9/2012

Field Sample #: LTM-WH-VWC-002 | Sampled: 8/9/2012 10:15

Sample ID: 12H0301-02

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	8/11/12	8/14/12 18:35	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:35	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:35	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:35	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:35	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:35	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:35	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:35	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:35	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	92.2	30-150		8/14/12 18:35
Decachlorobiphenyl [2]	91.2	30-150		8/14/12 18:35
Tetrachloro-m-xylene [1]	97.0	30-150		8/14/12 18:35
Tetrachloro-m-xylene [2]	98.5	30-150		8/14/12 18:35

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Project Location: UMA - LT MMIP | Sample Description: | Work Order: 12H0301

Date Received: 8/9/2012

Field Sample #: LTM-WH-VWC-003 | Sampled: 8/9/2012 10:30

Sample ID: 12H0301-03

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	8/11/12	8/14/12 18:48	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:48	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:48	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:48	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:48	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:48	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:48	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:48	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 18:48	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	82.7	30-150		8/14/12 18:48
Decachlorobiphenyl [2]	81.5	30-150		8/14/12 18:48
Tetrachloro-m-xylene [1]	86.7	30-150		8/14/12 18:48
Tetrachloro-m-xylene [2]	88.3	30-150		8/14/12 18:48

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Project Location: UMA - LT MMIP | Sample Description: | Work Order: 12H0301

Date Received: 8/9/2012

Field Sample #: LTM-TH-VWC-004 | Sampled: 8/9/2012 12:20

Sample ID: 12H0301-04

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	8/11/12	8/14/12 19:01	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 19:01	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 19:01	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 19:01	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 19:01	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 19:01	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 19:01	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 19:01	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/11/12	8/14/12 19:01	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	90.2	30-150		8/14/12 19:01
Decachlorobiphenyl [2]	88.6	30-150		8/14/12 19:01
Tetrachloro-m-xylene [1]	95.0	30-150		8/14/12 19:01
Tetrachloro-m-xylene [2]	97.0	30-150		8/14/12 19:01

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
12H0301-01 [LTM-WH-VWC-001]	B056837	1.00	10.0	08/11/12
12H0301-02 [LTM-WH-VWC-002]	B056837	1.00	10.0	08/11/12
12H0301-03 [LTM-WH-VWC-003]	B056837	1.00	10.0	08/11/12
12H0301-04 [LTM-TH-VWC-004]	B056837	1.00	10.0	08/11/12

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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 B056837 - SW-846 3540C										
Blank (B056837-BLK1)				Prepared: 08/11/12 Analyzed: 08/14/12						
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	*1.70*		µg/Wipe	2.00		84.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.68*		µg/Wipe	2.00		83.9	30-150			
Surrogate: Tetrachloro-m-xylene	*1.82*		µg/Wipe	2.00		91.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.84*		µg/Wipe	2.00		92.2	30-150			
LCS (B056837-BS1)				Prepared: 08/11/12 Analyzed: 08/14/12						
Aroclor-1016	0.51	0.20	µg/Wipe	0.500		102	40-140			
Aroclor-1016 [2C]	0.56	0.20	µg/Wipe	0.500		111	40-140			
Aroclor-1260	0.48	0.20	µg/Wipe	0.500		96.8	40-140			
Aroclor-1260 [2C]	0.50	0.20	µg/Wipe	0.500		100	40-140			
Surrogate: Decachlorobiphenyl	*1.87*		µg/Wipe	2.00		93.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.85*		µg/Wipe	2.00		92.5	30-150			
Surrogate: Tetrachloro-m-xylene	*2.01*		µg/Wipe	2.00		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.04*		µg/Wipe	2.00		102	30-150			
LCS Dup (B056837-BSD1)				Prepared: 08/11/12 Analyzed: 08/14/12						
Aroclor-1016	0.51	0.20	µg/Wipe	0.500		101	40-140	0.379	30	
Aroclor-1016 [2C]	0.56	0.20	µg/Wipe	0.500		112	40-140	0.546	30	
Aroclor-1260	0.49	0.20	µg/Wipe	0.500		98.3	40-140	1.46	30	
Aroclor-1260 [2C]	0.51	0.20	µg/Wipe	0.500		102	40-140	1.85	30	
Surrogate: Decachlorobiphenyl	*1.93*		µg/Wipe	2.00		96.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.90*		µg/Wipe	2.00		95.2	30-150			
Surrogate: Tetrachloro-m-xylene	*1.95*		µg/Wipe	2.00		97.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.98*		µg/Wipe	2.00		99.2	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.

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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	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2013
CT	Connecticut Department of Publilc 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

CHAIN OF CUSTODY RECORD

1240301

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

Company Name: Woodard + Curran
Address: 35 N. E. Bus Ctr Drive
Andover, MA
Attention: J Hurmel, G Franklin, K Rinard
Project Location: UMA - LTMMIP
Sampled By: Kim Rinard

Telephone:
Project #
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ✓ EMAIL ○ WEBSITE
Fax #: jhurmel@woodardcurran.com
Email: gfranklin@ " " "
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	1	HEXANE	G	EPA 8082/3540C Soxhlet	ANALYSIS REQUESTED
01	LTM-WH-VWC-001	8/9/12	0950			WI	U					
02	LTM-WH-VWC-002	↓	1015			↓	U					
03	LTM-WH-VWC-003	↓	1030			↓	U					3rd flr - WEST (H)
04	LTM-TH-VWC-004	↓	1220			WI	U					North @ 17.5ft

KAR 8/9/12

# 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_____
WI = WIPE

Comments: ① EPA 8082 PCB's via 3540C Soxhlet ② RL 1 ug/wipe
③ 5 DAY TAT - NO RUSH PLEASE - Thanks!

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	8/9/12 1500
Received by: (signature)	Date/Time:
Ed Lehuta	8/9/12 1500
Relinquished by: (signature)	Date/Time:
Ed Lehuta	8/9/12 1630
Received by: (signature)	Date/Time:
[illegible] G.O	8/9/12 1630

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: RL 1 ug/wipe

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

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Sample Receipt Checklist

CLIENT NAME: Woodard and Curran RECEIVED BY: JSM DATE: 8-9-12

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 6

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	4
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:

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August 23, 2012

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

Project Location: UMA LT MMIP
Client Job Number:
Project Number: 224867
Laboratory Work Order Number: 12H0548

Enclosed are results of analyses for samples received by the laboratory on August 16, 2012. 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: 8/23/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224867

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12H0548

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

PROJECT LOCATION: UMA LT MMIP

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
LTM-SWC-VWC-005	12H0548-01	Wipe		SW-846 8082A	
LTM-SWC-VWC-006	12H0548-02	Wipe		SW-846 8082A	
LTM-SWC-VWC-007	12H0548-03	Wipe		SW-846 8082A	
LTM-SWC-VWC-008	12H0548-04	Wipe		SW-846 8082A	
LTM-SWC-VWC-009	12H0548-05	Wipe		SW-846 8082A	
LTM-SWC-VWC-010	12H0548-06	Wipe		SW-846 8082A	
LTM-SWC-VWC-011	12H0548-07	Wipe		SW-846 8082A	
LTM-SWC-VWC-012	12H0548-08	Wipe		SW-846 8082A	
LTM-SWC-VWC-013	12H0548-09	Wipe		SW-846 8082A	
LTM-SWC-VWC-014	12H0548-10	Wipe		SW-846 8082A	
LTM-SWC-VWC-015	12H0548-11	Wipe		SW-846 8082A	
LTM-SWC-VWC-016	12H0548-12	Wipe		SW-846 8082A	
LTM-SWC-VWC-018	12H0548-14	Wipe		SW-846 8082A	
LTM-SWC-VWC-019	12H0548-15	Wipe		SW-846 8082A	
LTM-SWC-VWC-020	12H0548-16	Wipe		SW-846 8082A	
LTM-SWC-VWC-021	12H0548-17	Wipe		SW-846 8082A	
LTM-SWC-VWC-022	12H0548-18	Wipe		SW-846 8082A	
LTM-SWC-VWC-023	12H0548-19	Wipe		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.

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.

Michael A. Erickson
Laboratory Director

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

Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-005 | Sampled: 8/15/2012 16:50

Sample ID: 12H0548-01

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	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 21:51	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 21:51	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 21:51	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 21:51	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 21:51	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 21:51	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 21:51	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 21:51	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 21:51	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	84.4	30-150		8/22/12 21:51
Decachlorobiphenyl [2]	89.8	30-150		8/22/12 21:51
Tetrachloro-m-xylene [1]	88.7	30-150		8/22/12 21:51
Tetrachloro-m-xylene [2]	87.6	30-150		8/22/12 21:51

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-006 | Sampled: 8/15/2012 17:00

Sample ID: 12H0548-02

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	8/21/12	8/22/12 22:04	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:04	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:04	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:04	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:04	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:04	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:04	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:04	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:04	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	81.2	30-150		8/22/12 22:04
Decachlorobiphenyl [2]	86.7	30-150		8/22/12 22:04
Tetrachloro-m-xylene [1]	86.0	30-150		8/22/12 22:04
Tetrachloro-m-xylene [2]	85.0	30-150		8/22/12 22:04

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-007 | Sampled: 8/15/2012 17:15

Sample ID: 12H0548-03

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	8/21/12	8/22/12 22:17	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:17	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:17	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:17	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:17	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:17	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:17	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:17	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:17	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	83.0	30-150		8/22/12 22:17
Decachlorobiphenyl [2]	88.8	30-150		8/22/12 22:17
Tetrachloro-m-xylene [1]	87.9	30-150		8/22/12 22:17
Tetrachloro-m-xylene [2]	86.9	30-150		8/22/12 22:17

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-008 | Sampled: 8/15/2012 17:20

Sample ID: 12H0548-04

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	8/21/12	8/22/12 22:30	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:30	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:30	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:30	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:30	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:30	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:30	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:30	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:30	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	82.9	30-150		8/22/12 22:30
Decachlorobiphenyl [2]	88.2	30-150		8/22/12 22:30
Tetrachloro-m-xylene [1]	88.9	30-150		8/22/12 22:30
Tetrachloro-m-xylene [2]	87.9	30-150		8/22/12 22:30

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-009 | Sampled: 8/15/2012 17:30

Sample ID: 12H0548-05

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	8/21/12	8/22/12 22:42	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:42	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:42	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:42	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:42	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:42	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:42	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:42	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:42	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	86.2	30-150		8/22/12 22:42
Decachlorobiphenyl [2]	92.3	30-150		8/22/12 22:42
Tetrachloro-m-xylene [1]	86.8	30-150		8/22/12 22:42
Tetrachloro-m-xylene [2]	85.9	30-150		8/22/12 22:42

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-010 | Sampled: 8/15/2012 17:40

Sample ID: 12H0548-06

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	8/21/12	8/22/12 22:55	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:55	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:55	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:55	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:55	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:55	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:55	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:55	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 22:55	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	82.7	30-150		8/22/12 22:55
Decachlorobiphenyl [2]	88.8	30-150		8/22/12 22:55
Tetrachloro-m-xylene [1]	84.8	30-150		8/22/12 22:55
Tetrachloro-m-xylene [2]	84.0	30-150		8/22/12 22:55

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-011 | Sampled: 8/15/2012 17:50

Sample ID: 12H0548-07

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	8/21/12	8/22/12 23:08	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:08	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:08	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:08	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:08	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:08	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:08	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:08	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:08	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	82.1	30-150		8/22/12 23:08
Decachlorobiphenyl [2]	88.2	30-150		8/22/12 23:08
Tetrachloro-m-xylene [1]	83.5	30-150		8/22/12 23:08
Tetrachloro-m-xylene [2]	82.7	30-150		8/22/12 23:08

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-012 | Sampled: 8/15/2012 18:00

Sample ID: 12H0548-08

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	8/21/12	8/22/12 23:21	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:21	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:21	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:21	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:21	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:21	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:21	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:21	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:21	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	82.9	30-150		8/22/12 23:21
Decachlorobiphenyl [2]	88.5	30-150		8/22/12 23:21
Tetrachloro-m-xylene [1]	85.9	30-150		8/22/12 23:21
Tetrachloro-m-xylene [2]	85.1	30-150		8/22/12 23:21

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-013 | Sampled: 8/15/2012 18:25

Sample ID: 12H0548-09

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	8/21/12	8/22/12 23:34	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:34	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:34	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:34	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:34	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:34	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:34	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:34	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/22/12 23:34	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	83.1	30-150		8/22/12 23:34
Decachlorobiphenyl [2]	89.1	30-150		8/22/12 23:34
Tetrachloro-m-xylene [1]	89.2	30-150		8/22/12 23:34
Tetrachloro-m-xylene [2]	88.5	30-150		8/22/12 23:34

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

Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-014 | Sampled: 8/15/2012 18:35

Sample ID: 12H0548-10

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	8/21/12	8/23/12 1:03	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:03	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:03	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:03	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:03	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:03	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:03	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:03	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:03	MJC

Surrogates	% Recovery	Recovery Limits	Flag		
Decachlorobiphenyl [1]	87.8	30-150		8/23/12	1:03
Decachlorobiphenyl [2]	97.0	30-150		8/23/12	1:03
Tetrachloro-m-xylene [1]	95.3	30-150		8/23/12	1:03
Tetrachloro-m-xylene [2]	95.9	30-150		8/23/12	1:03

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

Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-015 | Sampled: 8/15/2012 18:45

Sample ID: 12H0548-11

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	8/21/12	8/23/12 1:16	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:16	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:16	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:16	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:16	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:16	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:16	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:16	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:16	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	83.6	30-150		8/23/12 1:16
Decachlorobiphenyl [2]	90.9	30-150		8/23/12 1:16
Tetrachloro-m-xylene [1]	84.6	30-150		8/23/12 1:16
Tetrachloro-m-xylene [2]	85.2	30-150		8/23/12 1:16

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

Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-016 | Sampled: 8/15/2012 18:55

Sample ID: 12H0548-12

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	8/21/12	8/23/12 1:28	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:28	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:28	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:28	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:28	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:28	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:28	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:28	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:28	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	82.5	30-150		8/23/12 1:28
Decachlorobiphenyl [2]	90.1	30-150		8/23/12 1:28
Tetrachloro-m-xylene [1]	88.4	30-150		8/23/12 1:28
Tetrachloro-m-xylene [2]	88.9	30-150		8/23/12 1:28

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

Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-018 | Sampled: 8/15/2012 19:15

Sample ID: 12H0548-14

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	8/21/12	8/23/12 1:41	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:41	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:41	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:41	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:41	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:41	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:41	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:41	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:41	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	85.5	30-150		8/23/12 1:41
Decachlorobiphenyl [2]	92.0	30-150		8/23/12 1:41
Tetrachloro-m-xylene [1]	86.8	30-150		8/23/12 1:41
Tetrachloro-m-xylene [2]	87.3	30-150		8/23/12 1:41

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

Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-019 | Sampled: 8/15/2012 19:25

Sample ID: 12H0548-15

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	8/21/12	8/23/12 1:54	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:54	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:54	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:54	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:54	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:54	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:54	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:54	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 1:54	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	82.6	30-150		8/23/12 1:54
Decachlorobiphenyl [2]	91.1	30-150		8/23/12 1:54
Tetrachloro-m-xylene [1]	88.0	30-150		8/23/12 1:54
Tetrachloro-m-xylene [2]	88.9	30-150		8/23/12 1:54

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-020 | Sampled: 8/15/2012 19:40

Sample ID: 12H0548-16

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	8/21/12	8/23/12 2:06	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:06	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:06	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:06	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:06	MJC
Aroclor-1254 [1]	1.4	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:06	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:06	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:06	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:06	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	85.6	30-150		8/23/12 2:06
Decachlorobiphenyl [2]	92.9	30-150		8/23/12 2:06
Tetrachloro-m-xylene [1]	90.4	30-150		8/23/12 2:06
Tetrachloro-m-xylene [2]	91.1	30-150		8/23/12 2:06

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

Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-021 | Sampled: 8/15/2012 19:55

Sample ID: 12H0548-17

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	8/21/12	8/23/12 2:19	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:19	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:19	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:19	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:19	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:19	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:19	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:19	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:19	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	86.5	30-150		8/23/12 2:19
Decachlorobiphenyl [2]	95.8	30-150		8/23/12 2:19
Tetrachloro-m-xylene [1]	91.9	30-150		8/23/12 2:19
Tetrachloro-m-xylene [2]	92.3	30-150		8/23/12 2:19

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Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-022 | Sampled: 8/15/2012 20:10

Sample ID: 12H0548-18

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	8/21/12	8/23/12 2:32	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:32	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:32	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:32	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:32	MJC
Aroclor-1254 [2]	1.6	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:32	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:32	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:32	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:32	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	83.9	30-150		8/23/12 2:32
Decachlorobiphenyl [2]	92.0	30-150		8/23/12 2:32
Tetrachloro-m-xylene [1]	90.2	30-150		8/23/12 2:32
Tetrachloro-m-xylene [2]	90.8	30-150		8/23/12 2:32

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

Project Location: UMA LT MMIP | Sample Description: | Work Order: 12H0548

Date Received: 8/16/2012

Field Sample #: LTM-SWC-VWC-023 | Sampled: 8/15/2012 20:20

Sample ID: 12H0548-19

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	8/21/12	8/23/12 2:45	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:45	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:45	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:45	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:45	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:45	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:45	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:45	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/21/12	8/23/12 2:45	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	84.8	30-150		8/23/12 2:45
Decachlorobiphenyl [2]	90.6	30-150		8/23/12 2:45
Tetrachloro-m-xylene [1]	86.3	30-150		8/23/12 2:45
Tetrachloro-m-xylene [2]	86.5	30-150		8/23/12 2:45

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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 [Wipe]	Final [mL]	Date
12H0548-01 [LTM-SWC-VWC-005]	B057408	1.00	10.0	08/21/12
12H0548-02 [LTM-SWC-VWC-006]	B057408	1.00	10.0	08/21/12
12H0548-03 [LTM-SWC-VWC-007]	B057408	1.00	10.0	08/21/12
12H0548-04 [LTM-SWC-VWC-008]	B057408	1.00	10.0	08/21/12
12H0548-05 [LTM-SWC-VWC-009]	B057408	1.00	10.0	08/21/12
12H0548-06 [LTM-SWC-VWC-010]	B057408	1.00	10.0	08/21/12
12H0548-07 [LTM-SWC-VWC-011]	B057408	1.00	10.0	08/21/12
12H0548-08 [LTM-SWC-VWC-012]	B057408	1.00	10.0	08/21/12
12H0548-09 [LTM-SWC-VWC-013]	B057408	1.00	10.0	08/21/12

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
12H0548-10 [LTM-SWC-VWC-014]	B057414	1.00	10.0	08/21/12
12H0548-11 [LTM-SWC-VWC-015]	B057414	1.00	10.0	08/21/12
12H0548-12 [LTM-SWC-VWC-016]	B057414	1.00	10.0	08/21/12
12H0548-14 [LTM-SWC-VWC-018]	B057414	1.00	10.0	08/21/12
12H0548-15 [LTM-SWC-VWC-019]	B057414	1.00	10.0	08/21/12
12H0548-16 [LTM-SWC-VWC-020]	B057414	1.00	10.0	08/21/12
12H0548-17 [LTM-SWC-VWC-021]	B057414	1.00	10.0	08/21/12
12H0548-18 [LTM-SWC-VWC-022]	B057414	1.00	10.0	08/21/12
12H0548-19 [LTM-SWC-VWC-023]	B057414	1.00	10.0	08/21/12

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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 B057408 - SW-846 3540C										
Blank (B057408-BLK1)				Prepared: 08/21/12 Analyzed: 08/22/12						
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	*1.78*		µg/Wipe	2.00		89.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.79*		µg/Wipe	2.00		89.3	30-150			
Surrogate: Tetrachloro-m-xylene	*1.77*		µg/Wipe	2.00		88.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.71*		µg/Wipe	2.00		85.4	30-150			
LCS (B057408-BS1)				Prepared: 08/21/12 Analyzed: 08/22/12						
Aroclor-1016	0.52	0.20	µg/Wipe	0.500		103	40-140			
Aroclor-1016 [2C]	0.49	0.20	µg/Wipe	0.500		98.0	40-140			
Aroclor-1260	0.49	0.20	µg/Wipe	0.500		97.1	40-140			
Aroclor-1260 [2C]	0.48	0.20	µg/Wipe	0.500		95.9	40-140			
Surrogate: Decachlorobiphenyl	*1.78*		µg/Wipe	2.00		88.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.79*		µg/Wipe	2.00		89.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.76*		µg/Wipe	2.00		87.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.70*		µg/Wipe	2.00		85.2	30-150			
LCS Dup (B057408-BSD1)				Prepared: 08/21/12 Analyzed: 08/22/12						
Aroclor-1016	0.57	0.20	µg/Wipe	0.500		114	40-140	9.85	30	
Aroclor-1016 [2C]	0.57	0.20	µg/Wipe	0.500		114	40-140	15.0	30	
Aroclor-1260	0.58	0.20	µg/Wipe	0.500		115	40-140	17.0	30	
Aroclor-1260 [2C]	0.58	0.20	µg/Wipe	0.500		116	40-140	19.2	30	
Surrogate: Decachlorobiphenyl	*2.09*		µg/Wipe	2.00		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.14*		µg/Wipe	2.00		107	30-150			
Surrogate: Tetrachloro-m-xylene	*2.09*		µg/Wipe	2.00		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.04*		µg/Wipe	2.00		102	30-150			

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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 B057414 - SW-846 3540C										
Blank (B057414-BLK1)				Prepared: 08/21/12 Analyzed: 08/23/12						
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	*1.74*		µg/Wipe	2.00		86.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.83*		µg/Wipe	2.00		91.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.66*		µg/Wipe	2.00		82.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.65*		µg/Wipe	2.00		82.5	30-150			
LCS (B057414-BS1)				Prepared: 08/21/12 Analyzed: 08/23/12						
Aroclor-1016	0.48	0.20	µg/Wipe	0.500		96.8	40-140			
Aroclor-1016 [2C]	0.49	0.20	µg/Wipe	0.500		97.9	40-140			
Aroclor-1260	0.48	0.20	µg/Wipe	0.500		95.5	40-140			
Aroclor-1260 [2C]	0.51	0.20	µg/Wipe	0.500		102	40-140			
Surrogate: Decachlorobiphenyl	*1.73*		µg/Wipe	2.00		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.83*		µg/Wipe	2.00		91.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.64*		µg/Wipe	2.00		82.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.65*		µg/Wipe	2.00		82.5	30-150			
LCS Dup (B057414-BSD1)				Prepared: 08/21/12 Analyzed: 08/23/12						
Aroclor-1016	0.48	0.20	µg/Wipe	0.500		95.5	40-140	1.29	30	
Aroclor-1016 [2C]	0.49	0.20	µg/Wipe	0.500		98.4	40-140	0.462	30	
Aroclor-1260	0.50	0.20	µg/Wipe	0.500		99.6	40-140	4.15	30	
Aroclor-1260 [2C]	0.50	0.20	µg/Wipe	0.500		101	40-140	1.12	30	
Surrogate: Decachlorobiphenyl	*1.77*		µg/Wipe	2.00		88.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.88*		µg/Wipe	2.00		93.9	30-150			
Surrogate: Tetrachloro-m-xylene	*1.72*		µg/Wipe	2.00		86.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.74*		µg/Wipe	2.00		87.1	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.

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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	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2013
CT	Connecticut Department of Publilc 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

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39 Spruce Street
East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

12H0548

Company Name: Woodard + Curran
Address: 35 N. E. Business Ctr. Drive Suite 180
Andover MA
Attention: J Hamel, G Franklin, K Rinard
Project Location: UMA LT mmip
Sampled By: Kim Rinard

Telephone:
Project #
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ⊘ EMAIL ○ WEBSITE
Fax # jhamel@woodard curran.com
Email: gfranklin@ " " "
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	# of Containers: 1	** Preservation: HEXANE	***Container Code: G	ANALYSIS REQUESTED: EPA 8082/3540C Soxhlet
01	LTM-SWC-VWC-005	8/15/12	1650					1	HEXANE	G	✓
02	LTM-SWC-VWC-006	↓	1700					1	HEXANE	G	✓
03	LTM-SWC-VWC-007		1715					1	HEXANE	G	✓
04	LTM-SWC-VWC-008	↓	1720					1	HEXANE	G	✓
05	LTM-SWC-VWC-009		1730					1	HEXANE	G	✓
06	LTM-SWC-VWC-010	8/15/12	1740					1	HEXANE	G	✓
07	LTM-SWC-VWC-011	↓	1750					1	HEXANE	G	✓
08	LTM-SWC-VWC-012		1800					1	HEXANE	G	✓
09	LTM-SWC-VWC-013	↓	1825					1	HEXANE	G	✓
10	LTM-SWC-VWC-014		1835					1	HEXANE	G	✓

Comments: ① EPA 8082 PCBs via 3540C Soxhlet ② RL ≤ 1ug/wipe
③ 5 Day TAT ④ SW Concourse Area

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

***Container Code: Dissolved Metal
○ 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_____

Relinquished by: (signature)	Date/Time:
(K Rinard)	8/16/12 1220
Received by: (signature)	Date/Time: 1220 8-16-12
Relinquished by: (signature)	Date/Time: 18:50 8-16-12
Received by: (signature) 3.0C	Date/Time: 18:20 8-16-12

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: RL ≤ 1ug/wipe

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

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Company Name: Woodard + Curran
Address: 35 N.E. Bus Ctr Drive Suite 180
Andover, MA
Attention: J Hamel, G Franklin, K Rinard
Project Location: UMA LT mmip
Sampled By: Kim Rinard

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

Telephone:
Project #
Client PO#

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

# of Containers: 1
** Preservation: HEXANE
***Container Code: G

ANALYSIS REQUESTED: EPA8082/3540C Soxhlet

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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	EPA8082/3540C Soxhlet
11	LTM-SWC-VWC-015	8/15/12	1845					✓
12	LTM-SWC-VWC-016	↓	1855					✓
13	LTM-SWC-VWC-017	↓	1910					✓
14	LTM-SWC-VWC-018	↓	1915					✓
15	LTM-SWC-VWC-019		1925					✓
16	LTM-SWC-VWC-020	8/15/12	1940					✓
17	LTM-SWC-VWC-021	↓	~~2010~~ 1955 (KM 8/15/12)					✓
18	LTM-SWC-VWC-022	↓	2010					✓
19	LTM-SWC-VWC-023	↓	2020					✓
20	8/16/12 KM							

Comments: (1) EPA 8082 PCB's via 3540C Soxhlet (2) RL ≤ 1ug/wipe (3) 5 DAY TAT (4) SW Concourse Area

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

Relinquished by: (signature)	Date/Time:
[signature] (K Rinard)	1220 8/16/12 ~~1210~~ KM
Received by: (signature) [signature]	Date/Time: 1220 8-16-12
Relinquished by: (signature) [signature]	Date/Time: 1820 8-16-12
Received by: (signature) [signature] 3.0C	Date/Time: 8/16/12 18:20

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: RL ≤ 1ug/wipe

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

***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______

†† 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 & Curran RECEIVED BY: KKM DATE: 8-16-12

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 3.0C

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	19
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:

12H0548-01 LTM-SWC-VWC-005

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.77	1.75251	0.993
Decachlorobiphenyl	1.69	1.7966	6.11

12H0548-02 LTM-SWC-VWC-006

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.62	1.7338	6.79
Tetrachloro-m-xylene	1.72	1.70038	1.15

12H0548-03 LTM-SWC-VWC-007

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.66	1.77664	6.79
Tetrachloro-m-xylene	1.76	1.73708	1.31

12H0548-04 LTM-SWC-VWC-008

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.66	1.76407	6.08
Tetrachloro-m-xylene	1.78	1.75776	1.26

12H0548-05 LTM-SWC-VWC-009

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.72	1.84686	7.11
Tetrachloro-m-xylene	1.74	1.71817	1.26

12H0548-06 LTM-SWC-VWC-010

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.65	1.77587	7.35
Tetrachloro-m-xylene	1.70	1.67912	1.24

12H0548-07 LTM-SWC-VWC-011

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.67	1.654	0.963
Decachlorobiphenyl	1.64	1.76397	7.28

12H0548-08 LTM-SWC-VWC-012

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.66	1.77068	6.45
Tetrachloro-m-xylene	1.72	1.70215	1.04

12H0548-09 LTM-SWC-VWC-013

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.66	1.78211	7.1
Tetrachloro-m-xylene	1.78	1.77065	0.527

12H0548-10 LTM-SWC-VWC-014

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.76	1.93992	9.73
Tetrachloro-m-xylene	1.91	1.91895	0.467

12H0548-11 LTM-SWC-VWC-015

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.67	1.81812	8.49
Tetrachloro-m-xylene	1.69	1.70427	0.841

12H0548-12 LTM-SWC-VWC-016

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.65	1.80146	8.78
Tetrachloro-m-xylene	1.77	1.77847	0.477

12H0548-14 LTM-SWC-VWC-018

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.71	1.84042	7.35
Tetrachloro-m-xylene	1.74	1.74535	0.307

12H0548-15 LTM-SWC-VWC-019

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.65	1.82127	9.87
Tetrachloro-m-xylene	1.76	1.77736	0.982

12H0548-16 LTM-SWC-VWC-020

Analyte		Results	%RPD
Aroclor-1254	1.4	1.29169	8.05
Surrogates			
Decachlorobiphenyl	1.71	1.85707	8.25
Tetrachloro-m-xylene	1.81	1.82249	0.688

12H0548-17 LTM-SWC-VWC-021

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.73	1.91669	10.2
Tetrachloro-m-xylene	1.84	1.84584	0.317

12H0548-18 LTM-SWC-VWC-022

Analyte		Results	%RPD
Aroclor-1254 [2C]	1.6	1.49684	6.66
Surrogates			
Decachlorobiphenyl	1.68	1.84069	9.13
Tetrachloro-m-xylene	1.80	1.81561	0.863

12H0548-19 LTM-SWC-VWC-023

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.70	1.813	6.43
Tetrachloro-m-xylene	1.73	1.72968	0.0185

B057408-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.78	1.78652	0.366
Tetrachloro-m-xylene	1.77	1.70882	3.52

B057408-BS1 LCS

Analyte		Results	%RPD
Aroclor-1260	0.49	0.47956	2.15
Aroclor-1016	0.52	0.49003	5.93
Surrogates			
Decachlorobiphenyl	1.78	1.79174	0.657
Tetrachloro-m-xylene	1.76	1.70342	3.27

B057408-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1260	0.58	0.58143	0.246
Aroclor-1016	0.57	0.56921	0.139
Surrogates			
Decachlorobiphenyl	2.09	2.14131	2.43
Tetrachloro-m-xylene	2.09	2.04167	2.34

B057414-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	1.66	1.64941	0.64
Decachlorobiphenyl	1.74	1.83309	5.21

B057414-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	0.48	0.48969	2
Aroclor-1260	0.48	0.5082	5.71
Surrogates			
Tetrachloro-m-xylene	1.64	1.64939	0.571
Decachlorobiphenyl	1.73	1.83146	5.7

B057414-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	0.48	0.49196	2.46
Aroclor-1260	0.50	0.50255	0.509
Surrogates			
Tetrachloro-m-xylene	1.72	1.74174	1.26
Decachlorobiphenyl	1.77	1.87767	5.9

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August 28, 2012

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

Project Location: UMass LT MMIP
Client Job Number:
Project Number: 225695
Laboratory Work Order Number: 12H0712

Enclosed are results of analyses for samples received by the laboratory on August 21, 2012. 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: 8/28/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 225695

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12H0712

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

PROJECT LOCATION: UMass LT MMIP

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
LTM-SWC-VWC-017	12H0712-01	Wipe		SW-846 8082A	
LTM-SWC-VWCD-024	12H0712-02	Wipe		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.

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.

Michael A. Erickson
Laboratory Director

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

Project Location: UMass LT MMIP | Sample Description: | Work Order: 12H0712

Date Received: 8/21/2012

Field Sample #: LTM-SWC-VWC-017 | Sampled: 8/20/2012 19:00

Sample ID: 12H0712-01

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	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:15	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:15	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:15	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:15	PJG
Aroclor-1248 [1]	0.24	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:15	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:15	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:15	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:15	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:15	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	98.4	30-150		8/27/12 19:15
Decachlorobiphenyl [2]	105	30-150		8/27/12 19:15
Tetrachloro-m-xylene [1]	92.2	30-150		8/27/12 19:15
Tetrachloro-m-xylene [2]	92.9	30-150		8/27/12 19:15

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Project Location: UMass LT MMIP | Sample Description: | Work Order: 12H0712

Date Received: 8/21/2012

Field Sample #: LTM-SWC-VWCD-024 | Sampled: 8/20/2012 19:00

Sample ID: 12H0712-02

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	8/24/12	8/27/12 19:28	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:28	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:28	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:28	PJG
Aroclor-1248 [1]	0.29	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:28	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:28	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:28	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:28	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	8/24/12	8/27/12 19:28	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.3	30-150		8/27/12 19:28
Decachlorobiphenyl [2]	102	30-150		8/27/12 19:28
Tetrachloro-m-xylene [1]	93.5	30-150		8/27/12 19:28
Tetrachloro-m-xylene [2]	94.2	30-150		8/27/12 19:28

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
12H0712-01 [LTM-SWC-VWC-017]	B057643	1.00	10.0	08/24/12
12H0712-02 [LTM-SWC-VWCD-024]	B057643	1.00	10.0	08/24/12

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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 B057643 - SW-846 3540C										
Blank (B057643-BLK1)				Prepared: 08/24/12 Analyzed: 08/27/12						
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	*1.95*		µg/Wipe	2.00		97.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.00*		µg/Wipe	2.00		100	30-150			
Surrogate: Tetrachloro-m-xylene	*1.87*		µg/Wipe	2.00		93.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.86*		µg/Wipe	2.00		93.0	30-150			
LCS (B057643-BS1)				Prepared: 08/24/12 Analyzed: 08/27/12						
Aroclor-1016	0.55	0.20	µg/Wipe	0.500		110	40-140			
Aroclor-1016 [2C]	0.54	0.20	µg/Wipe	0.500		109	40-140			
Aroclor-1260	0.54	0.20	µg/Wipe	0.500		108	40-140			
Aroclor-1260 [2C]	0.57	0.20	µg/Wipe	0.500		113	40-140			
Surrogate: Decachlorobiphenyl	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.17*		µg/Wipe	2.00		109	30-150			
Surrogate: Tetrachloro-m-xylene	*1.91*		µg/Wipe	2.00		95.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.91*		µg/Wipe	2.00		95.5	30-150			
LCS Dup (B057643-BSD1)				Prepared: 08/24/12 Analyzed: 08/27/12						
Aroclor-1016	0.55	0.20	µg/Wipe	0.500		111	40-140	0.628	30	
Aroclor-1016 [2C]	0.54	0.20	µg/Wipe	0.500		109	40-140	0.340	30	
Aroclor-1260	0.55	0.20	µg/Wipe	0.500		110	40-140	2.12	30	
Aroclor-1260 [2C]	0.57	0.20	µg/Wipe	0.500		114	40-140	0.224	30	
Surrogate: Decachlorobiphenyl	*2.11*		µg/Wipe	2.00		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.17*		µg/Wipe	2.00		109	30-150			
Surrogate: Tetrachloro-m-xylene	*1.92*		µg/Wipe	2.00		96.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.93*		µg/Wipe	2.00		96.4	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.

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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	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2013
CT	Connecticut Department of Publilc 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

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

12407212
Rev 04.05.12

Company Name: Woodard + Curran
Address: 35 N.E. Business Ctr Drive Suite 100
Andover, MA
Attention: J Hamel, G Franklin, K Rinard
Project Location: UMA LT MM/P
Sampled By: Kim Rinard

Telephone:
Project # 225695
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #jhamel@woodardcurran.com
Email: gfranklin@ " " "
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
01	LTM-SWC-VWC-017	8/20/12	1900			WI	U
02	LTM-SWC-VWCO-024	↓	↓			↓	↓

8/21/12 WM

# of Containers	1											
** Preservation	I/2											
***Container Code	G											
ANALYSIS REQUESTED: EPA 8082 PCBs	✓	✓										

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 _____
WI = WIPE

Comments: ① EPA 8082 PCBs via 3540C Soxhlet ② RL ≤ 1ug/wipe
③ South west Concourse - Epoxy @ Canoe ④ 5 DAY TAT! Thanks

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:
(KRinard) 0.6°	8/21/12 2100
Received by: (signature) 0.8° 8/21/12	Date/Time: 2100
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:
RL ≤ 1ug/wipe
Other:

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

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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East Longmeadow, MA. 01028
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Sample Receipt Checklist

CLIENT NAME: Woodard + Curran RECEIVED BY: JSM DATE: 8.21.12

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 0.6

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:** 1A

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	2
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:

12H0712-01 LTM-SWC-VWC-017

Analyte	Results		%RPD
Aroclor-1248	0.24	0.21832	9.46
Surrogates			
Decachlorobiphenyl	1.97	2.0908	5.95
Tetrachloro-m-xylene	1.84	1.85709	0.925

12H0712-02 LTM-SWC-VWCD-024

Analyte	Results		%RPD
Aroclor-1248	0.29	0.25956	11.1
Surrogates			
Decachlorobiphenyl	1.93	2.03115	5.11
Tetrachloro-m-xylene	1.87	1.88439	0.767

B057643-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.87	1.85955	0.56
Decachlorobiphenyl	1.95	1.99965	2.51

B057643-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	0.54	0.56639	4.77
Aroclor-1016	0.55	0.54451	1
Surrogates			
Decachlorobiphenyl	2.10	2.17193	3.37
Tetrachloro-m-xylene	1.91	1.91096	0.0502

B057643-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.55	0.54266	1.34
Aroclor-1260	0.55	0.56766	3.16
Surrogates			
Tetrachloro-m-xylene	1.92	1.92898	0.467
Decachlorobiphenyl	2.11	2.1728	2.93