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May 29, 2014

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

Re: PCB Remediation Completion Report
Kline Geology Laboratory
Yale University, New Haven, Connecticut

Dear Ms. Tisa:

On behalf of Yale University, please find attached a Polychlorinated Biphenyl (PCB) Remediation Completion Report and a Monitoring and Maintenance Implementation Plan (MMIP) prepared in accordance with the U.S. Environmental Protection Agency's (EPA's) September 19, 2011 PCB Decontamination and Disposal Approval under 40 CFR 761.61(c) and 761.79(h) (the Approval) for the Kline Geology Laboratory located within the Science Hill area of Yale's campus in New Haven, Connecticut.

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

Sincerely,

WOODARD & CURRAN INC.

Jeffrey Hamel, LSP, LEP
Senior Vice President

cc: S. Murdzia, Yale
D. Monz, Updike, Kelly, and Spellacy, P.C.
G. Trombley, CTDEEP PCB Program

WOODARD
&CURRAN

PCB REMEDIATION COMPLETION REPORT

Yale University

Kline Geology Laboratory

New Haven, Connecticut

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40 Shattuck Road; Suite 110
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224415.00
Yale - KGL
May 2014

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1. INTRODUCTION

This Polychlorinated Biphenyl (PCB) Remediation Completion Report has been prepared by Woodard & Curran on behalf of Yale University to comply with the requirements set forth in the U.S. Environmental Protection Agency's (EPA) September 19, 2011 PCB Decontamination and Disposal Approval under 40 CFR 761.61(c) and 761.79(h) (the Approval) for the subject work, as modified on December 14, 2011. This Approval is provided in Appendix A to this Report.

This Report documents PCB remediation activities conducted at the Kline Geology Laboratory located on the Yale University New Haven campus. In accordance with the Approval, the PCB Remediation Completion Report is to be submitted following completion of all activities authorized under the Approval. PCB remediation activities were conducted in accordance with the Notification[1] and the Approval. Remediation and verification activities were completed between September 2011 and March 2012 with final removal and off-site disposal of PCB wastes completed in March 2012. However, following completion of the overall building renovation project and prior to implementation of post-abatement indoor air monitoring, the building's ventilation system was evaluated and changes/ improvements to the system were recommended, of which Yale decided to implement. Given that modifications and renovations to the ventilation system were pending, the collection of the post-abatement air monitoring samples was deferred until after completion of the ventilation system upgrades. These upgrades were completed in December 2013 and the indoor air samples were collected in March 2014.

In accordance with Condition 14 of the Approval, a draft deed restriction was submitted to EPA within 30 days of completion of the work (on April 3, 2014). Upon receipt of EPA comments, the final deed restriction will be recorded and pursuant to Condition 23 of the Approval, a copy will be submitted to EPA.

1.1 SITE DESCRIPTION

The Kline Geology Laboratory is a three story building primarily utilized as a graduate research laboratory and includes laboratories, lecture halls, student and faculty offices, and a library on the third floor. The Kline Geology Laboratory Building is located in the Science Hill area of the Yale campus and is surrounded by Whitney Avenue to the east, parking areas to the north, University laboratories to the west, and a museum to the south. Surrounding ground surfaces are generally flat or slightly sloped away from the building and are either covered with asphalt pavement, brownstone, concrete, or landscaped areas. A Site Locus Map is provided as Figure 1-1.

1.2 SITE BACKGROUND / CONCEPTUAL SITE MODEL

The Kline Geology Laboratory was originally constructed in 1963, during a time period when PCBs were sometimes used in standard construction building materials (e.g., caulking). In preparation for a window replacement project, a materials survey was conducted to assess the potential presence of various hazardous materials that might be encountered during the window removal process. This materials survey included an inspection and sampling of suspect materials for PCBs.

Analytical results indicated that certain caulking materials contained PCBs at concentrations greater than 50 parts per million (ppm). Adjacent building materials were sampled to determine whether PCBs had migrated from the caulking into these adjacent materials, and the characterization data confirmed that detectable concentrations of PCBs were present in certain adjacent materials at regulated concentrations. After completing the characterization of PCB-containing materials at the Site, these results were used to develop a remedial approach that was incorporated

[1] Information was prepared by Woodard & Curran on behalf of Yale to satisfy the requirements under 40 CFR 761.61(c) and 761.79(h). Information was submitted on August 5, 2011 (PCB Remediation Plan), September 1, 2011 (Response to EPA Comments), and September 13, 2011 (email clarification on brownstone encapsulation). These submittals together comprise the "Notification."

into the overall renovation project plans as presented in the PCB Remediation Plan submitted to EPA in August 2011 and subsequently approved on September 19, 2011.

1.3 REPORT ORGANIZATION

This Completion Report has been prepared to document the PCB remediation work completed at the building as part of a window replacement project (Section 2). A data usability assessment is included in Section 3 and a summary of the waste storage and disposal is presented in Section 4.The Monitoring and Maintenance Implementation Plan (MMIP) has also been prepared and presented in Section 6.

A certification signed by Yale University indicating that the remediation activities have been completed in accordance with the Notification and Approval is provided below.

Certification

In accordance with Condition 23 of EPA's September 19, 2011 PCB Cleanup and Disposal Approval under 40 CFR 761.61(c) and 761.79(h), Yale University hereby certifies that the authorized decontamination and disposal activities were implemented in accordance with the Approval and the Notification. A copy of the Final Completion Report and other documentation required by the Approval will be kept on file at the location indicated below and are available for EPA inspection, as set forth below.

Document Location

Yale University
Environmental Health & Safety
135 College Street, Suite 100
New Haven, CT 06511

Yale University

Authorized Signature 5/29/14 Date

John H. Bollier
Name of Authorized representative (print)

Assoc. Vice President for Facilities
Title

2. REMEDY IMPLEMENTATION

This section describes the PCB cleanup and disposal activities conducted at the Site under the Approval, consistent with the requirements of 40 CFR 761.61(c) and 761.69(h). Remediation activities began on September 26, 2011. Window replacement activities were concluded on December 12, 2011 and final encapsulation of building materials including verification inspections and testing were completed on March 8, 2012. As described in the previous section, due to the working condition of the building ventilation system, post-abatement monitoring was completed in March 2014 following repairs/upgrades to the ventilation system.

In accordance with Condition 14 of the Approval, a draft deed restriction was submitted to EPA on April 3, 2014. Upon receipt of EPA comments, the final deed restriction will be recorded and pursuant to Condition 23 of the Approval, a copy will be submitted to EPA.

The remedial approach consisted of the following:

- Removal and off-site disposal of ≥ 50 ppm PCB containing caulking and sealant with window frames and components as ≥ 50 ppm PCB waste (maximum PCB concentration was 270,000 ppm in caulking);
- Encapsulation of building materials formerly in direct with the caulking and that were scheduled to remain in place;
- Encapsulation of exterior and interior building materials located away from the former direct contact areas and which contained PCBs at concentrations above the high or low occupancy clean up levels, as applicable.

A summary of activities completed including, site preparations and controls, PCB impacted material removals, inspections and verification sample collection and analyses, and material disposal is presented in the following sections.

2.1 SITE PREPARATION AND CONTROLS

Prior to initiating the remediation activities, site preparations and controls were implemented as described in the PCB Remediation Plan. These preparations included the development of a Health & Safety Plan, Contractor Work Plan, assembly of scaffolding on the building, assembly of workspace enclosures, securing access to the active work areas through signage, and occupant relocation.

Standard Builders, Inc (SBI) personnel coordinated with Yale University staff to relocate all users to alternative areas to the greatest extent possible. All users were advised of the abatement project timeline and were asked to refrain from working in rooms where abatement activities were being conducted. Regardless, the remediation contractor (AAIS) constructed temporary steel framed enclosures with plywood sheeting at the interior of each window opening and lined these enclosures with polyethylene sheeting. Temporary enclosures were mounted directly to the interior concrete masonry unit (CMU) block wall prior to active removal of the specific window. Exterior to the windows, polyethylene sheeting was placed on the scaffolding around the work areas. Signs were displayed on each temporary enclosure. Removal of the windows and sealants was conducted from the outside of the building within full polyethylene containment and negative pressure controls. Water misting, HEPA filter equipped tools, and negative pressure controls with HEPA filtration were used to control dust.

Dust monitoring of areas outside of the containments was conducted during active removal activities by Woodard & Curran personnel or designated SBI personnel, in accordance with the dust monitoring plan included in Appendix D of the PCB Remediation Plan. A direct reading particulate meter (Thermo Electron Inc. PDR 1000-AN) was used to monitor total dust concentrations at a background location and at multiple stations surrounding the work areas at a frequency of once every two hours during active removal. The exact locations of the stations varied based on the work area.

Two readings were recorded above the project action limit for total dust during the work. On September 27, 2011 a total dust reading of 1.427 mg/m^3, which was above the action level, was recorded outside the poly containment on the scaffolding. Abatement work within the enclosure was immediately shut down and it was determined that the generator providing power to the HEPA vacuum for the negative air had been shut off during lunch when no abatement work was being conducted and had not been restarted. Inspection of the polysheeting also found a seam that was not fully sealed. The seam was sealed and the generator was restarted. A follow up dust meter reading recorded total dust as 0.105 mg/m^3. On October 14, 2011, a total dust reading of 0.287 mg/m^3, which was above the action level was recorded in Room 319. Work was stopped and all seams on the interior temporary enclosure were re-taped. The room was inspected and dust was not visible within the interior spaces (airborne or on horizontal surfaces). The dust meter was then placed in Room 319 and left to run for the next two hours prior to restarting work. During this two hour period (during which no work was being conducted) the time weighted average dust reading for the two hour period was 0.378 mg/m^3 indicating that the initial reading was not due to the remediation activities.

A copy of the dust monitoring logs is provided in Appendix B.

2.2 SAMPLING AND ANALYTICAL METHODS

Verification samples collected in support of the remediation activities described herein were collected in accordance with generally accepted procedures for environmental sampling. Masonry samples were collected consistent with the EPA Region I Standard Operating Procedure for Sampling Porous Surfaces for PCBs (May 2011). Surface wipe samples were collected using hexane-saturated gauze wipes in accordance with the standard wipe test method under 40 CFR 761.123. Post-abatement indoor air samples were collected in accordance with USEPA Compendium Method TO-10A "Determination of Pesticides and Polychlorinated Biphenyls in Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)". Locations of verification samples are depicted graphically on Figures 2-1 through 2-4 and the locations of post-abatement samples are depicted on Figures 2-6 through 2-8.

Samples were transferred on ice to Con-Test Analytical Laboratory of East Longmeadow, Massachusetts under standard chain of custody procedures. Bulk and wipe samples were extracted using USEPA Method 3540C (Soxhlet extraction) and analyzed for PCBs using USEPA Method 8082. Indoor air samples were submitted for PCB Homolog analysis via USEPA Method 680A. Electronic versions of the laboratory analytical packages for the data presented in this section are provided in Appendix C.

2.3 CAULKING AND WINDOW REMOVAL

Caulking and glazing sealants associated with exterior windows scheduled to be removed throughout the Kline Geology Laboratory were identified as containing ≥ 50 ppm PCBs and as asbestos containing materials (ACM).

Typical Building Elevation

Following the construction of polyethylene containment and the establishment of site controls as described above, window caulking, glazing sealants, and frames and components (including glass) were removed using manual methods (hand tools, pry bars, etc.) for off-site disposal as a ≥ 50 ppm PCB and asbestos containing waste. A summary of the removal methods is as follows:

- The operational portion of each window was removed;

- Interior and exterior caulking was removed from the caulked joints;
- Window frames were removed from the opening using hand tools; and
- Residual caulking on the masonry surfaces was removed using electric removal tools.

All materials were double-wrapped in poly-sheeting at the point of generation and placed on a rolling cart for transport at the conclusion of each day through the building along a pre-determined route to the designated hazardous waste storage area via the loading dock. The waste transport routes were visually inspected following waste transport. Following completion of the removals within each work area, AAIS removed the exterior polyethylene enclosures. Interior enclosures remained in place until after the application of the liquid epoxy coatings. All disposable materials (poly-sheeting, PPE, etc.) were removed for disposal with the ≥ 50 ppm PCB waste.

As described in a December 12, 2011 submittal to EPA, a request for modification to the PCB Remediation Plan was submitted to allow for interior caulking and direct contact frame materials associated with the two windows located in Room 332 to temporarily remain in place and to not apply coatings to interior CMU wall materials adjacent to the windows. Note: the exterior perimeter caulking and window frames and components were removed and disposed of off-site. The request to temporary leave in place the interior components was based on the operation of Room 332 as a "clean room" due to sensitive geochemical metallic research and analyses. In a letter dated December 14, 2011, EPA approved the modification to include the temporary in-place management of PCB containing caulking and building materials located within Room 332 for a period of 2 years (or December 31, 2013). On October 14, 2013, a request was submitted to EPA to extend this period. This modification request was supplemented on February 27, 2014 and is currently under review.

2.4 ENCAPSULATION PILOT TEST ACTIVITIES

Prior to commencing remediation, pilot tests were conducted to assess the effectiveness of the selected liquid coatings in achieving the encapsulation target levels. A summary of analytical results from the pilot test sampling of the liquid coatings is summarized on Table 2-1 and presented below.

Following removal of a window from Room 106, one coat of ECI Fibertech F-50 penetrating primer followed by two coats of ECI Fibertech F-51 topcoat were applied to CMU and brick materials formerly in direct contact with the caulking. Following a 24-hour cure time, verification wipe samples were collected. Analytical results from the wipe samples indicated that PCBs were present above the encapsulation target of 1 µg/100cm^2 with reported concentrations of 5.5 µg/100cm^2 in the sample collected from the coated brick and 260 µg/100cm^2 in the sample collected from the coated CMU block.

Based on these results, the project team consulted a representative from Fibertech and developed alternate application methods including limited re-use of rollers, application in one direction (i.e., no back and forth motions), and an increased coating thickness. Following application of one additional primer coat and two additional topcoats, verification wipe samples were again collected at the completion of the 24-hour cure time. One wipe sample was collected from the coated brick and two were collected from the coated CMU block. Analytical results indicated that PCBs were present above the encapsulation target of 1 µg/100cm^2 with reported concentrations of 1.3 µg/100cm^2 in the sample collected from the coated brick and concentrations of 10 and 26 µg/100cm^2 in the samples collected from the coated CMU block.

Following receipt of the second round of data, the pilot test area was expanded to include additional window openings on the third floor and an alternate liquid coating for use on materials formerly in direct contact with the caulking was evaluated. The technical representative from Fibertech was again consulted including a site visit to observe the application of the coating in accordance with his previous recommendations. Openings from windows at four rooms, which had been removed during the pilot test activities, were coated with either one coat of ECI Fibertech F-50 penetrating primer followed by two coats of ECI Fibertech F-51 topcoat (three window openings) or with two coats of the Sikagard 62 liquid epoxy coating (one window opening). Verification wipe samples were collected

following either a 48-hour or 72-hour cure time from each of the coated surfaces. Analytical results indicated that PCBs were present at concentrations above the encapsulation target in samples collected from the surfaces coated with the Fibertech products following the 48 and 72-hour cure times (three samples collected from brick and three samples from CMU block). Results from the verification samples collected from the surfaces coated with the Sikagard 62 epoxy indicated that PCBs were below the target in samples collected from both the brick and CMU coated surfaces following the 72-hour cure time (results following the 48-hour cure time indicated that PCBs were present above the target in the sample collected from the brick, the sample collected from CMU was inadvertently destroyed by the laboratory prior to analysis).

To further evaluate the effectiveness of the Sikagard 62 product at different time intervals in relation to the timing of window replacement, a third coat was applied and verification samples were collected following a 5-hour and a 20-hour hold time. Results from the verification wipe samples collected indicated that PCBs were below the encapsulation target in all four samples collected.

Based on these results, the project team elected to apply three coats of Sikagard 62 liquid epoxy coating for the encapsulation of building materials formerly in direct contact with the caulking.

Prior to full implementation of the clear coat application to brick and brownstone materials not in direct contact with the caulking, the proposed encapsulant (KlenzSeal liquid sealant) was applied to materials in front of the Room 108 window to verify the effectiveness in the encapsulation of PCBs and to evaluate the visual impacts the sealant may have on the brick and brownstone. Verification wipe samples were collected following the application of two coats of the sealant. Analytical results indicated that PCBs were present at a concentration of 0.58 µg/100cm^2 on the surface of the coated brick and at a concentration of 2.1 µg/100cm^2 on the surface of the coated brownstone. Based on these results, an additional coating was applied to the brownstone and a verification wipe sample collected. Results indicated that PCBs were still present above the target with a reported concentration of 20 µg/100cm^2. Given this result the team selected a different product for application to the brownstone (see Section 2.7.2).

2.5 ENCAPSULATION OF BUILDING MATERIALS FORMERLY IN DIRECT CONTACT WITH CAULKING

Following caulking removal, all loose materials were removed from the window opening and the surfaces were cleaned with a non-phosphate detergent scrub in preparation for application of the liquid coating. The window openings were then vacuumed and spray foam insulation was installed in the cavity between the interior and exterior walls. Building materials formerly in direct contact with the interior and exterior caulking joints were encapsulated with three coats of Sikagard 62 liquid epoxy coating. The epoxy coating along exterior joints was extended to a distance of 5/8 inches from the former joint based on the construction of the replacement windows which had a 5/8-inch wider frame than the original windows allowing for the application of additional epoxy without having the epoxy be visible at project completion.

Former Direct Contact Materials Following Epoxy Application

Following application of the liquid epoxy, verification wipe samples were collected from the encapsulated surfaces at the frequency described in the Remediation Plan and submitted for PCB analysis. A total of 33 verification wipe samples were collected for analysis. A summary of analytical results is as follows:

- Interior CMU Block Materials (1 sample per every 4 windows; 20 samples) – Analytical results indicated that PCBs were either non-detect (18 samples at < 0.20 µg/100cm^2) or < 1 µg/100cm^2 (two samples with reported concentrations of 0.35 and 0.36 µg/100cm^2); and
- Exterior Brick/Brownstone Materials (1 sample per every 5 windows; 13 samples) – Analytical results indicated that PCBs were either non-detect (nine samples at < 0.20 µg/100cm^2) or < 1 µg/100cm^2 (four samples with reported concentrations of 0.21, 0.34, 0.49, and 0.85 µg/100cm^2).

Following review of the wipe results, replacement windows were installed in the window openings. The locations of the verification wipe samples are depicted on Figures 2-1 and 2-2. A summary of analytical results is presented on Table 2-2.

2.6 ENCAPSULATION OF INTERIOR BUILDING MATERIALS NOT IN DIRECT CONTACT WITH CAULKING

Interior wall surfaces adjacent to the windows consisted of CMU block (the majority of locations) and drywall (2 locations). As described in the PCB Remediation Plan, these materials (collectively referred to as CMU) were identified as containing PCBs at concentrations above the high occupancy clean up criteria of ≤ 1 ppm. In accordance with Section 5.2.2 of the PCB Remediation Plan, one coat of ECI Fibertech F-50 primer and two coats of ECI Fibertech F-51 topcoat were applied to CMU materials as follows:

- CMU walls from the removed interior caulked joints (coated with the epoxy) to the first 90 degree angle in the walls (i.e., the entire interior side of the perimeter building wall adjacent to a window);
- CMU walls above the upper horizontal caulked joint to the structural ceiling (i.e., the entire interior side of the perimeter building wall above a window including CMU block above and below the drop ceiling);
- In locations with fixed objects mounted on the wall, coating was applied to the CMU block on both sides of the object (in locations with drop ceilings, the ceiling tiles were removed and the liquid encapsulant applied to CMU block above the ceiling line).

Following application, 19 verification wipe samples were collected (approximately one sample per every four windows) from randomly selected locations. The random location was selected through the use of a random number generator for both the horizontal and vertical axis upon measuring the dimensions for each individual interior wall. Verification samples were collected from randomly selected locations as described in the September 1, 2011 Comment Response (Comment 8). Analytical results indicated that PCBs were either non-detect (10 samples at < 0.20 µg/100cm^2) or < 1 µg/100cm^2 (nine samples ranging from 0.21 to 0.88 µg/100cm^2). The locations of the verification wipe samples are depicted on Figures 2-1 and 2-2. A summary of analytical results is presented on Table 2-3.

Going forward, the interior CMU walls will be monitored as part of the long term maintenance and monitoring program as described in Section 6.

2.7 ENCAPSULATION OF EXTERIOR BUILDING MATERIALS NOT IN DIRECT CONTACT WITH CAULKING

Exterior building materials containing PCBs at concentrations above the applicable clean up criteria were managed in place through the application of a liquid sealant. Based on the differing potential for direct contact exposures, as described in detail in the PCB Remediation Plan and subsequently approved, both the high occupancy and low occupancy clean up criteria were applied as follows:

- High Occupancy Areas: The high occupancy cleanup criteria of ≤ 1 ppm total PCBs was applied to all first floor building materials adjacent to Type A windows on the north building elevation and to concrete materials surrounding the Type C basement level windows on the east elevation; and

- Low Occupancy Areas: The low occupancy cleanup criteria of ≤ 25 ppm total PCBs was applied to building materials adjacent to Type A windows on the first floor locations of the east (4 windows) and south (3 windows) elevations and to all second and third floor building materials adjacent to Type A and Type B windows. There are no first floor windows on the west elevation.

As noted above, based on the width of the replacement frames, materials to a distance of 5/8-inch from the former exterior caulked joints were managed as former direct contact materials for the purposes of encapsulation and verification testing.

In accordance with the PCB Remediation Plan, samples were collected from masonry materials adjacent to the exterior caulked joints at various distances to determine the extent of PCBs at concentrations above the high and low occupancy criteria, as well as to determine the extent of the encapsulated areas. A summary of the additional bulk sampling, encapsulation areas, and verification wipe sampling for each material is included in the following sections.

2.7.1 Brick

Bulk samples were collected to determine the extent of liquid coating application to brick materials within the window recess in high and low occupancy areas. Following sampling, the identified areas were encapsulated and verification wipe samples collected for PCB analyses. A summary of the brick encapsulation is presented in the following paragraphs, separated by high and low occupancy areas.

High Occupancy Areas

Analytical results from the three bulk samples collected within 0.5 inches of the former joint indicated that PCBs were present at concentrations of 0.31, 2.4, and 25 ppm. Based on these results, the project team made the decision to assume that brick materials within the entire window recess contained PCBs ≥ 1 ppm at all high occupancy locations (approximately four inches from the former caulked joint). To confirm that the extent of PCBs > 1 ppm did not extend beyond the window recess, four brick samples were collected at a distance of three inches from the caulked joints (one inch before the end of the window recess). Analytical results indicated that PCBs were non-detect in three samples (total PCBs < 0.1 ppm) and present at a concentration of 2.4 ppm in the fourth sample. Given that 3 of the 4 samples at this location were non-detect andthe area of coating application would extend beyond these sampling locations, the encapsulation was applied to the entire window recess. The locations of the verification bulk samples are depicted on Figures 2-3 and 2-4. A summary of analytical results is presented on Table 2-4.

Brick surfaces within the window recess (a distance of approximately four inches) were coated with three coats of KlenzSeal liquid sealant. Following application, verification wipe samples were collected from coated brick within each of the window recesses at a frequency of 1 sample per window. Analytical results from five of the seven samples indicated that PCBs were either non-detect (three samples at < 0.20 µg/100cm^2) or < 1 µg/100cm^2 (2 samples with concentrations of 0.58 and 0.92 µg/100cm^2). Results from two samples indicated that PCBs were present above the encapsulation target of ≤ 1 µg/100cm^2 with reported concentrations of 6 and 14 µg/100cm^2.

Based on these results, a fourth coat of KlenzSeal was applied to all high occupancy brick surfaces and verification samples were collected from two locations off-set from those previously reported as containing PCBs > 1µg/100cm^2. Analytical results from these wipe samples indicated that PCBs were below the encapsulation target with results of non-detect (< 0.20 µg/100cm^2) and a concentration of 0.51 µg/100cm^2. The locations of the verification wipe samples are depicted on Figures 2-1 and 2-2. A summary of the verification wipe sample results is presented on Table 2-5.

Based on these results, no additional remediation activities were conducted on brick within the high occupancy areas. These materials will be incorporated into the long term maintenance and monitoring program as described in Section 6.

Low Occupancy Areas

Bulk samples were collected within 0.5 inches or at a distance of 5/8-inches from the former caulked joints to determine PCB concentrations in materials beyond the extent of the replacement window frames and liquid epoxy coating in low occupancy areas (the distance was modified to 0.75 inches after the first three samples were collected based on the width of the replacement frames as described above). Analytical results indicated the following:

- PCBs were reported in five samples at concentrations < 25 ppm (total PCBs ranging from 0.43 to 12 ppm with an average reported concentration of approximately 3.7 ppm); and
- PCBs were reported at a concentration of 34 ppm in one sample. Based discussions with the remediation contractor residual demolition debris may have been left on the brick materials at this location following window removal. Following installation of the replacement window at this location, surficial debris was brushed away and the sample location was cleaned with an Alconox solution, rinsed with clean water, and allowed to air dry. Two follow-up verification samples were then collected from within the same recess. Analytical results indicated that PCBs were non-detect (< 0.10 ppm) in both samples.

Based on these results, brick window recesses in low occupancy areas met the cleanup level and therefore, an encapsulant was not applied to these areas. The locations of the verification bulk samples are depicted on Figures 2-3 and 2-4. A summary of the analytical results is presented on Table 2-4.

2.7.2 Brownstone

Bulk samples were collected to determine the extent of liquid coating application to brownstone materials in front of windows in high and low occupancy areas. A summary of the brownstone encapsulation is presented in the following paragraphs, separated by high and low occupancy areas.

High Occupancy Areas

Analytical results from the four bulk samples collected within 0.5 inches from the former joint indicated that PCBs were present at concentrations ranging from 4.6 to 29 ppm with an average of 15.4 ppm. Based on these results, the project team made the decision to assume that brownstone sill materials in all high occupancy areas contained PCBs ≥ 1 ppm. To confirm that the extent of PCBs > 1 ppm did not extend beyond the top face of the sill (approximately 24 inches wide), three brownstone samples were collected at a distance of six inches from the former caulked joints. Analytical results indicated that PCBs were present at concentrations of 0.98, 1.1, and 1.5 ppm. Based on these results, one additional sample of brownstone was collected at a distance of 20 inches from the former joint (four inches before the end of the sill). Analytical results from this sample indicated that PCBs were present at a concentration of 1.2 ppm. Given that PCB concentrations decreased with distance from the former caulked joint, concentrations were at or slightly above 1 ppm at distances greater than 6 inches and the area of coating application would extend beyond these sampling locations the encapsulation was applied to the entire upper horizontal face of the sill (i.e., to a distance of 24 inches from the joint). Verification bulk sample locations are depicted on Figures 2-3 and 2-4. A summary of analytical results is presented on Table 2-4. Following sampling, the identified areas were encapsulated and verification wipe samples collected for PCB analyses.

Based on the results of the pilot test (see Section 2.4), the project team evaluated a second penetrating sealant (Duroshine Invisi-Guard impregnating sealer) for the brownstone encapsulation. Three coats of Duroshine were applied to the entire horizontal brownstone sill and verification wipe samples collected at a frequency of one sample per window. Results from the verification wipe samples indicated that in five of the seven samples PCBs were non-detect (2 samples at < 0.20 µg/100cm^2) or < 1 µg/100cm^2 (three samples with concentrations of 0.55, 0.66, and 0.97 µg/100cm^2). Analytical results from the remaining two samples indicated that PCBs were present at concentrations of 1.1 and 3.2 µg/100cm^2.

Following review of these results, one additional coat of Duroshine was applied to all the horizontal sills in the high occupancy areas and verification samples were collected from locations off-set from those previously reported as containing PCBs above the encapsulation target (coats were applied over two events based on results above 1

µg/100cm^2 in follow up samples). Following application of the fifth coat and a subsequent two week cure time, analytical results indicated that PCBs were below the encapsulation target at all locations. The locations of the verification wipe samples are depicted on Figures 2-1 and 2-2. A summary of the verification sample results are presented in Table 2-5.

Based on these results, no additional remediation activities were conducted on brownstone within the high occupancy areas. These materials will be incorporated into the long term maintenance and monitoring program as described in Section 6.

Low Occupancy Areas

Bulk samples were collected within 0.5 inches or at a distance of 5/8-inches from the caulked joints to determine PCB concentrations in materials beyond the extent of the replacement window frames and liquid epoxy coating in low occupancy areas (the distance was modified to 0.75 inches after the first three samples were collected based on the width of the replacement frames as described above). Analytical results indicated the following:

- PCBs were reported at concentrations of 24, 33, and 200 ppm in the three samples collected within 0.5 inches of the former caulked joints; however, these materials were coated with liquid epoxy and covered by the replacement frames. Additional samples were collected at each of these three locations at a distance of six inches from the former caulked joints. Analytical results indicated that PCBs were present at concentrations of 1.2, 1.2, and 0.71 ppm, respectively.
- Analytical results from the eight initial verification samples collected at a distance of 0.75 inches from the former caulked joint indicated that PCBs were < 25 ppm in seven samples with reported concentrations ranging from 2.1 to 16 ppm. Results from the eighth sample, collected from a third floor window on the south elevation, indicated that PCBs were present at a concentration of 48 ppm. A follow up sample was collected from the brownstone sill at this location to confirm the initial results. Results from the follow up sample indicated that PCBs were present at a concentration of 49 ppm. Following receipt of this sample result, one sample was collected at a distance of 0.75 inches from the caulked joints at each of the three brownstone sills in the immediate vicinity to determine if PCBs were present at concentrations > 25 ppm on these sills as well. Analytical results indicated that PCBs were present at concentrations of 9.9, 12, and 12 ppm.

Based on the bulk sample results, all locations not covered by epoxy and the replacement window frames met the low occupancy clean-up level with the exception of one window sill (48/49 ppm) on the south elevation third floor. The locations of the verification bulk samples are depicted on Figures 2-3 and 2-4. A summary of the verification sample results are presented in Table 2-4.

Three coats of Duroshine were applied to the brownstone sill at this third floor location. Analytical results from the verification wipe sample collected after application indicated that PCBs were preset at a concentration of 0.36 µg/100cm^2. The location of the verification wipe sample is depicted on Figure 2-2. A summary of the analytical results is presented on Table 2-5.

2.7.3 Concrete Sill

One bulk sample was collected from concrete sill materials at the east elevation basement windows to determine if PCBs were present at concentrations > 1 ppm at the extent of the window recesses. Analytical results indicated that PCBs were present at a concentration of 0.17 ppm. Sample locations are depicted on Figure 2-4. A summary of analytical results is presented on Table 2-4.

In accordance with the Remediation Plan and Approval, three coats of a liquid coating (Duroshine) were applied to all concrete materials within the recess of the window openings (approximately 11 inches). In accordance with the September 1, 2011 Comment Response, one verification wipe sample was collected following application and a 24-hour cure time. Analytical results indicated that PCBs were present at a concentration above the target

encapsulation goal of 1 µg/100cm^2 with a reported concentration of 2.2 µg/100cm^2. Based on these results, one additional coating was applied to concrete materials within the five window recesses and a follow-up wipe sample collected. Results of the follow-up verification wipe sample indicated that PCBs remained above the target encapsulation goal with a reported PCB concentration of 1.7 µg/100cm^2. A fifth coating was then applied to the concrete and allowed to cure for two weeks prior to verification wipe sampling. Analytical results from this sample indicated that PCBs were non-detect (< 0.20 µg/100cm^2) in the sample. The locations of the verification wipe samples are depicted on Figure 2-2. A summary of the verification sample results are presented in Table 2-5.

Based on these results, no additional remediation activities were conducted on concrete sills. These materials will be incorporated into the long term maintenance and monitoring program as described in Section 6.

2.7.4 Plaster Ceiling

Two verification samples of plaster ceiling materials at the second and third floor Type B windows were collected to determine if PCBs were present at concentrations > 25 ppm in plaster ceiling materials located beyond the extent of the liquid epoxy coating and replacement window frames. Samples were collected at a distance of 0.75 inches from the former caulked joint. Analytical results indicated that PCBs were present at concentrations of 9.9 and 12 ppm. Sample locations are depicted on Figure 2-3. A summary of analytical results is presented on Table 2-4. Given these results, no additional remediation activities were conducted on plaster ceiling materials in these areas.

2.7.5 Terrazzo Floor

Two samples of terrazzo floor materials were collected at the second and third floor Type B windows to determine if PCBs were present at concentrations > 25 ppm beyond the extent of the liquid epoxy coating and replacement window frames. Analytical results indicated that PCBs were present at concentrations of 1.5 and 130 ppm at a distance of < 0.5 inches from the former joint. Upon communication from the project team that the replacement window frames would be 5/8-inch wider than the original plan, a follow up sample was collected at a distance of 0.75 inches from the former caulked joint to assess PCB concentrations at this distance. Analytical results indicated that PCBs were present at a concentration of 3.1 ppm. Sample locations are depicted on Figure 2-3. A summary of analytical results is presented on Table 2-4. As a result, it was determined that PCBs would be < 25 ppm in areas beyond the epoxy/new window frames and that no additional remediation activities were conducted on terrazzo floor in these areas.

2.8 ENCAPSULATION SUMMARY

As part of the remediation activities, the following materials and areas were encapsulated with liquid coatings:

- Masonry materials in former direct contact with window caulking – Three coats of Sikagard 62 liquid epoxy coating were applied to building materials formerly in direct contact with interior and exterior joints and to a distance of 5/8-inches from the joints at 72 window openings; these areas were also subsequently covered by the metal frames of the new windows.
- Interior CMU walls not in direct contact with former window caulking – One coat of ECI Fibertech F-50 primer and two coats of ECI Fibertech F-51 topcoat were applied to CMU materials from the window openings to the first 90-degree angle (i.e., the interior side of the exterior wall) both laterally and vertically (i.e., above the window to the ceiling).
- Exterior brick window recesses – Four coats of KlenzSeal liquid sealant were applied to brick surfaces within the window recess (a distance of approximately four inches) in high occupancy areas (first floor north elevation window recesses).
- Exterior brownstone window sills – Five coats of Duroshine Invisi-Guard impregnating sealer were applied to brownstone surfaces within the window recess (a distance of approximately 24 inches) in high occupancy

areas (first floor north elevation) and three coats were applied to brownstone surfaces within one window recess on the third floor south elevation (low occupancy area).

- Exterior Concrete sills – Five coats of Duroshine Invis-Guard impregnating sealer were applied to concrete sill materials within the window recess (a distance of approximately 11 inches) at the five basement windows.

The locations of the encapsulated areas are depicted on Figure 2-5.

2.9 POST ABATEMENT MONITORING

In accordance with Condition 12 (d) (iii) of the Approval, a Post-Abatement Indoor Air and Interior Surfaces Wipe Sampling Plan was prepared and submitted to the EPA on January 10, 2012. The plan was reviewed and accepted by EPA on February 13, 2012 (via email). As described previously, following completion of the overall building renovation project and prior to implementation of post-abatement indoor air monitoring, the building's ventilation system was modified/ improved. Given the pending modifications and renovations to the ventilation system, the collection of the post-abatement samples was deferred to after completion of the ventilation system upgrades. These upgrades were completed in January 2014 and the post abatement monitoring was conducted in March 2014. A summary of the post abatement monitoring results is provided in the following sections.

2.9.1 Indoor Air Monitoring

As described in the sampling plan, indoor air samples were collected from 13 rooms to evaluate PCB concentrations in indoor air following completion of the remediation activities and modifications to the ventilation system. The sample locations were selected based on the following rationale:

- Indoor air samples were collected from approximately 20% of the rooms with windows;
- Specific locations were spatially distributed on each floor by the types of rooms (office, lab, and conference room) on the respective floor with considerations given to locations previously sampled and differing ventilation configurations (i.e., samples were divided between the two major ventilation system zones);
- On each floor at least one sample was collected from each "type" of space.

A summary of the sample locations for each floor is as follows:

- Basement Level – Although the plan included the collection of one sample from the basement level storage room, access to the space was not available at the time of sample collection (an additional sample was collected from a second floor office space);
- First Floor – Four samples were collected from first floor locations (there are a total of 13 rooms on the first floor). The air samples were collected from two offices (including Room 110 which was previously sampled), one laboratory, and one conference room;
- Second Floor – Five samples were collected from second floor locations (there are a total of 29 rooms on the second floor). The air samples were collected from three offices, one laboratory, and one conference room (Room 208A which was previously sampled);
- Third Floor – Four samples were collected from third floor locations (there are a total of 25 rooms on the third floor). The air samples were collected from two offices (including Room 335 which was previously sampled) and two laboratories (including Room 344, which was previously sampled).

Analytical results indicated that PCB concentrations were below the project action level of 450 ng/m3 (EPA's published guidance for indoor air levels for adults in schools [September 2009]) with reported concentrations ranging from 9.5 to 378.8 ng/m^3. A comparison of the results between the pre-removal and post-abatement sampling events is as follows:

- Room A110 (First Floor Office Space) – Total PCBs decreased from 510 ng/m^3 to 130.1 ng/m^3 in the post-abatement sampling event (approximately 74% decrease);
- Room A208A (Second Floor Conference Room) – Total PCBs decreased from 99 ng/m^3 to 9.5 ng/m^3 in the post-abatement sampling event (approximately 90% decrease);
- Room A335 (Third Floor Office) – Total PCBs decreased from 600 ng/m^3 to 48.1 ng/m^3 in the post-abatement sampling event (approximately 92% decrease); and
- Room A344 (Third Floor Library) – Total PCBs decreased from 380 ng/m^3 to 50 ng/m^3 in the post-abatement sampling event (approximately 87% decrease).

Overall, PCB concentrations in indoor air decreased by between 74 and 92% from pre- to post-abatement sampling.

A summary of analytical results is presented on Table 2-6. The locations of the post-abatement air samples are depicted on Figures 2-6, 2-7, and 2-8.

2.9.2 Surface Wipe Sampling

As described in the sampling plan, surface wipe samples were collected from "accessible and high contact surfaces" proximate to the windows such as shelves, vents, and tables. One wipe sample was collected from each of the same 13 rooms as the indoor air samples.

Analytical results from the surface wipe samples indicated that PCBs were either non-detect (10 samples at < 0.20 µg/100 cm^2) or < 1 µg/100 cm^2 (3 samples with reported concentrations of 0.21, 0.24, and 0.25 µg/100 cm^2). The location of the verification wipe sample is depicted on Figures 2-6, 2-7, and 2-8. A summary of the analytical results is presented on Table 2-7.

2.10 RESTORATION

Following completion of PCB remediation activities, replacement windows were installed and building occupants returned to their spaces.

3. DATA USABILITY ASSESSMENT

This data usability assessment has been conducted to review the samples collected in support of the remediation and verification activities. Data validation and review was conducted by Woodard & Curran and a third-party validator, Data Check, Inc. of New Durham, New Hampshire. This review included a check of field documentation including sample collection and preservation methods, a check of the laboratory data and documentation, a review of the internal laboratory QA/QC procedures and results including surrogate recoveries, blank results, matrix spike (MS) and matrix spike duplicate (MSD) results, laboratory control standard (LCS) and laboratory control standard duplicate (LCSD) results, an evaluation of sample holding times, and field duplicate results. Data Check's data validation summaries are provided in Appendix C.

A summary of the data usability assessment for the data is presented below:

- All samples were extracted by USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs by USEPA Method 8082.
- Consistent procedures and laboratory analysis of the data were achieved. Sample containers were packed on ice and delivered to the laboratory under standard chain of custody procedures. All samples were extracted and analyzed within allowable holding times for the method.
- Some samples were received at the laboratory outside the acceptable temperature range (4º Celsius +/- 2º). Detect and non-detect results for the eight samples collected on September 27, 2011 and associated with laboratory report 11I1022 were estimated based on this condition.
- The data packages were reviewed to ensure that all sample and associated quality assurance results were available. Results of the completeness review indicated that all collected samples were analyzed and all quality control results were available to complete the data validation process.
- Some samples were analyzed at dilutions due to the concentration of PCBs present in the samples and/or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilutions.
- A total of five field duplicate samples were collected during the sampling events to evaluate the precision of the verification sample results. Relative percent difference (RPD) between the primary and associated duplicate samples met the acceptance criteria with the exception of Aroclor 1254 results for one sample pair. Aroclor 1254 results for the primary and duplicate samples of this sample pair were estimated based on this evaluation.
- The RPD between sample column results for individual samples were evaluated to assess the precision of the results. The RPD between sample column results were evaluated and determined to be within the acceptance criteria (≤ 25 %) with the exception of four samples. Aroclor 1254 results from these samples were estimated based on this evaluation.
- Accuracy of the analytical data was assessed by reviewing the recoveries for MS, MSD, surrogates, LCS, and LCSD. Surrogate recoveries were identified outside the acceptance limits for one of the bulk samples; however, results were not qualified due to only one of the two surrogates being outside acceptance limits. Surrogate recoveries were outside the acceptance limit for one indoor air sample. Results have been qualified as estimated (J/UJ). RPD between MS/MSD samples were outside the acceptance criteria for seven samples; however, results were not qualified due to interferences from other Aroclors.
- No analytes were detected in the method blanks or the field blank samples collected during the sampling events with the exception of one field blank sample which was reported to contain Aroclor 1242. No qualifications were applied to the data since Aroclor 1242 was not detected in the associated samples.

Based on this review, the data adequately represents the materials tested, and the samples are considered usable for the purposes of characterizing PCB-affected media and verifying remediation efforts in accordance with 40 CFR Part 761.

4. WASTE STORAGE, DISPOSAL, AND EQUIPMENT DECONTAMINATION

Waste storage and disposal activities were completed in accordance with the procedures described in the PCB Remediation Plan. All caulking and building materials characterized as ≥ 50 ppm PCB waste were segregated as a single waste stream and handled as ≥ 50 ppm PCB waste.

Following use, non-disposable equipment and tools were decontaminated using a double wipe with hexane soaked rags following gross removal of any dust or debris. Following gross decontamination, poly-sheeting, PPE, disposable tools and other materials used during the PCB Remediation work were managed and disposed with the ≥ 50 ppm PCB waste.

Wastes generated during the project were collected in secured, lined and covered waste containers (roll-off containers or box trailers) in accordance 40 CFR 761.65. These containers were labeled and marked in accordance with 40 CFR 761.40. Through the end of the project, 13 tons of waste materials, located in three roll-off containers and one cubic yard box, were transported off-site under manifest for disposal to Environmental Quality's Wayne Disposal Landfill in Belleville, Michigan as ≥ 50 ppm PCB waste and asbestos.

Copies of PCB waste shipment records including manifests and certificates of disposal are provided in Appendix D.

5. LONG TERM MONITORING AND MAINTENANCE OF ENCAPSULATED SURFACES

Pursuant to Condition 15 of the Approval, a Monitoring and Maintenance Implementation Plan (MMIP) has been prepared to monitor the effectiveness of the remedy over time. The MMIP, which is being submitted in Appendix E, includes the following:

- A description of the monitoring and maintenance activities that will be conducted, including inspection criteria, frequency, and routine maintenance activities;
- Sampling protocols, sampling frequency, analytical criteria, and reporting requirements;
- A communications component which details how the maintenance and monitoring results will be communicated to EPA and personnel responsible for the building;
- A worker training component for maintenance workers or other persons that will be conducting work that could impact the building coatings/barriers; and
- A recordkeeping and reporting schedule to submit the results of the MMIP activities to EPA.

6. SUMMARY AND CONCLUSIONS

The PCB remediation activities described in this Report have been performed in accordance with the Notification and the conditions of EPA's September 19, 2011 Approval.

In summary:

- A total of 13 tons of ≥ 50 ppm PCB waste (caulking, window frames and components, etc.) contained in three roll-off containers and one cubic yard box were removed for off-site disposal as ≥ 50 ppm PCB wastes and asbestos at Environmental Quality's Wayne Disposal Landfill in Belleville, Michigan.
- Residual PCBs remaining in masonry surfaces of the building (at concentrations > 1 ppm) were encapsulated using a combination of liquid coatings and physical barriers. These areas include:
    - Masonry materials in former direct contact with window caulking and to a distance of 5/8-inches from the exterior joints at 72 window openings have been encapsulated with two coats of liquid epoxy coating and subsequently covered by the metal frames of the new windows.
    - Interior CMU walls not in direct contact with former window caulking from the window opening to the first 90-degree angle (i.e., the interior side of the exterior wall) both laterally and vertically (i.e., above the window to the ceiling) have been encapsulated with one coat of ECI Fibertech F-50 primer and two coats of ECI Fibertech F-51 topcoat.
    - Exterior brick surfaces within the window recess (a distance of approximately four inches) in high occupancy areas (seven windows on the first floor north elevation were encapsulated with four coats of KlenzSeal liquid sealant.
    - Exterior brownstone surfaces within the window recess (a distance of approximately 24 inches) in high occupancy areas (seven windows on first floor north elevation) were encapsulated with five coats of Duroshine Invisi-Guard impregnating sealer. Exterior brownstone surfaces within one window recess (a distance of approximately 24 inches) on the third floor of the south elevation (low occupancy area) were encapsulated with three coats of the Duroshine Invisi-Guard impregnating sealer.
    - Exterior concrete sills materials within the five window recesses (a distance of approximately 11 inches from the joints) on the east elevation of the basement were encapsulated with five coats of Duroshine Invis-Guard impregnating sealer.
- A draft deed notice was submitted to EPA on April 3, 2014 and is under review. Upon approval, the notice will be recorded and a certified copy submitted to the Agency.
- A long term monitoring and maintenance program will be implemented to assess and verify the coating's / barrier's effectiveness over time.

With the exception of the removal of windows from Room 332 (modification/extension is under review), no further work is warranted to meet the conditions of the Approval aside from the long term monitoring and reporting and deed notice recordation.

Table 2-1
Summary of Pilot Test Verification Wipe Sample Results
Yale University - Kline Geology Laboratory

Liquid Coating	Window Type	Elevation	Room Number	Material	Sample ID	Sample Date	Total PCBs ($\mu g/100cm^2$)	Notes
FiberTech	A	North	106	Brick	KGL-VWB-002	8/30/2011	5.5	Samples collected following application of 1 coat of primer and 2 coats of topcoat using brush and rollers - approximately 24 hours after application.
				CMU	KGL-VWC-001	8/30/2011	260	
				Brick	KGL-106-2	9/23/2011	1.3	Samples collected following review of sampling procedures by Fibertech Representative and application of additional primer coat and two topcoat layers - approximately 24 hours after application.
				CMU	KGL-106-1	9/23/2011	26	
				CMU	KGL-106-4	9/23/2011	10	
	A	North	313	Brick	KGL-VW-018	10/3/2011	170	Samples collected following application of 1 coat of primer and 2 coats of topcoat using brush and rollers per Fibertech Representative's recommendations - approximately 48 hours (Room 306) and 72 hours (Rooms 312 and 313) after application.
				CMU	KGL-VW-025	10/3/2011	190	
	A	North	306	Brick	KGL-VW-019	10/3/2011	49	
				CMU	KGL-VW-023	10/3/2011	230	
	A	North	312	Brick	KGL-VW-020	10/3/2011	90	
				CMU	KGL-VW-024	10/3/2011	270	
Sikagard 62	A	North	345	Brick	KGL-VW-021	10/3/2011	14	Samples collected following application of two coats of epoxy - 48 hours after application.
				CMU	KGL-VW-022	10/3/2011	Sample Damaged by Lab	
				CMU	KGL-VW-036	10/5/2011	<0.20	Samples collected following application of two coats of epoxy - 72 hours after application.
				Brick	KGL-VW-037	10/5/2011	0.29 J	
				CMU	KGL-VW-038	10/6/2011	<0.2	Samples collected following application of third coat of epoxy - 5 hrs after application.
				Brick	KGL-VW-039	10/6/2011	<0.2	
				CMU	KGL-VW-041	10/7/2011	<0.2	Samples collected following application of third coat of epoxy - 20 hrs after application.
				Brick	KGL-VW-042	10/7/2011	<0.2	
KlenzSeal	A	North	108	Brownstone	KGL-VW-034	10/4/2011	2.1	Sample collected following application of two coats of sealant - 5 days after application.
					KGL-VWR-104	11/7/2011	20	Sample collected following application of three coats of sealant - 5 days after application.
				Brick	KGL-VW-035	10/4/2011	0.58	Sample collected following application of two coats of sealant - 5 days after application.

Notes:
Verification wipe samples collected in accordance with the standard wipe test method of 40 CFR 761.123.
All samples analyzed by USEPA Method 8082 with Method 3540C (Soxhlet) extraction.
J = Analytical results estimated based on data validation. See Appendix C for additional information.

Table 2-2
Summary of Verification Wipe Sample Results - Former Direct Contact Materials

Yale University - Kline Geology Laboratory

Elevation	Room Number	Sample ID	Sample Date	Total PCBs (µg/100cm^2)
CMU Block Materials				
North	102	KGL-VWC-083	10/28/2011	< 0.20
North	108	KGL-VWC-085	10/28/2011	< 0.20
North	126	KGL-VWC-081	10/28/2011	< 0.20
North	201	KGL-VWC-113	11/14/2011	< 0.20
North	208A	KGL-VWC-055	10/17/2011	< 0.20
North	250	KGL-VWC-045	10/14/2011	0.35
North	301	KGL-VWC-112	11/14/2011	0.36
North	312	KGL-VWC-049	10/17/2011	< 0.20
North	306	KGL-VWC-051	10/17/2011	< 0.20
North	345	KGL-VWC-041	10/7/2011	< 0.20
South	122	KGL-VWC-118	11/16/2011	< 0.20
South	220	KGL-VWC-117	11/16/2011	< 0.20
South	235	KGL-VWC-115	11/16/2011	< 0.20
South	327B	KGL-VWC-105	11/9/2011	< 0.20
East	7	KGL-VWC-119	11/22/2011	< 0.20
East	110	KGL-VWC-069	10/24/2011	< 0.20
East	216	KGL-VWC-067	10/22/2011	< 0.20
East	314	KGL-VWC-063	10/20/2011	< 0.20
West	247	KGL-VWC-099	11/4/2011	< 0.20
West	337	KGL-VWC-093	11/1/2011	< 0.20
Brick and Brownstone				
North	102	KGL-VWB-092	10/28/2011	< 0.20
North	126	KGL-VWB-082	10/28/2011	< 0.20
North	207	KGL-VWB-054	10/17/2011	< 0.20
North	208A	KGL-VWB-056	10/17/2011	0.49
North	250	KGL-VW-046	10/14/2011	< 0.20
North	312	KGL-VWB-050	10/17/2011	0.85
North	306	KGL-VWB-052	10/17/2011	< 0.20
North	345	KGL-VW-042	10/7/2011	< 0.20
South	227	KGL-VWB-116	11/16/2011	< 0.20
South	327B	KGL-VWB-106	11/9/2011	0.21
East	110	KGL-VWB-070	10/24/2011	< 0.20
East	216	KGL-VWB-068	10/22/2011	< 0.20
East	314	KGL-VWB-064	10/20/2011	0.34

Notes:
Verification wipe samples collected in accordance with the standard wipe test method of 40 CFR 761.123 following application of three coats of Sikagard 62 liquid epoxy coating.
All samples analyzed by USEPA Method 8082 with Method 3540C (Soxhlet) extraction.
All PCBs reported as Aroclor 1254. No other Aroclors reported above the minimum laboratory reporting limits.

Table 2-3
Summary of Verification Wipe Sample Results - Interior CMU Wall

Yale University - Kline Geology Laboratory

Elevation	Room Number	Sample ID	Sample Date	Total PCBs ($\mu g/100cm^2$)
North	102	KGL-VWC-110	11/9/2011	< 0.20
North	126	KGL-VWC-109	11/9/2011	0.45
North	201	KGL-VWC-125	11/30/2011	0.65
North	208A	KGL-VWC-075	10/26/2011	< 0.20
North	250	KGL-VWC-079	10/26/2011	0.88
North	306	KGL-VWC-071	10/24/2011	< 0.20
North	312	KGL-VWC-066	10/20/2011	< 0.20
North	313	KGL-VWC-065	10/20/2011	0.67
North	343	KGL-VWC-072	10/24/2011	0.34
South	122	KGL-VWC-123	11/23/2011	< 0.20
South	220	KGL-VWC-122	11/23/2011	0.52
South	235	KGL-VWC-121	11/23/2011	< 0.20
South	334	KGL-VWC-120	11/23/2011	0.3
East	7	KGL-VWC-127	12/7/2011	< 0.20
East	112	KGL-VWC-077	10/26/2011	< 0.20
East	214	KGL-VWC-076	10/26/2011	< 0.20
East	321D	KGL-VWC-126	12/7/2011	0.75
West	241	KGL-VWC-114	11/14/2011	0.21
West	337	KGL-VWC-097	11/2/2011	< 0.20

Notes:
Verification wipe samples collected in accordance with the standard wipe test method of 40 CFR 761.123 following application of one coat of ECI Fibertech F-50 primer and two coats of ECI Fibertech F-51 topcoat.
All samples analyzed by USEPA Method 8082 with Method 3540C (Soxhlet) extraction.

Table 2-4
Summary of Verification Bulk Sample Results

Yale University - Kline Geology Laboratory

Material	Occupancy Area	Window Type	Elevation	Room Number	Distance from Joint (inches)	Sample ID	Sample Date	Total PCBs (mg/kg)
Brick	High	A	North	102	< 0.5	KGL-VBB-013	9/28/2011	2.4
		A	North	108	< 0.5	KGL-VBB-014	9/29/2011	0.31
		A	North	124	< 0.5	KGL-VBB-012	9/28/2011	25
		A	North	102	3	KGL-VBB-061	10/17/2011	< 0.095
		A	North	102	3	KGL-VBB-087	10/28/2011	2.4
		A	North	108	3	KGL-VBB-059	10/17/2011	< 0.10
		A	North	124	3	KGL-VBB-062	10/17/2011	< 0.095
	Low	A	East	214	< 0.5	KGL-VBB-026	10/3/2011	12
		A	North	312B	< 0.5	KGL-VBB-011	9/28/2011	3.4
		A	East	314	< 0.5	KGL-VBB-027	10/3/2011	1.6
		A	South	220	0.75	KGL-VBB-100	11/7/2011	0.43
		A	West	249	0.75	KGL-VBB-090	10/28/2011	1
		A	West	339	0.75	KGL-VBB-086	10/28/2011	34
		A	West		0.75	KGL-VBB-132	12/14/2011	< 0.091
		A	West		0.75	KGL-VBB-133	12/14/2011	< 0.10
Brownstone	High	A	North	102	< 0.5	KGL-VBR-007	9/27/2011	29 J
		A	North	102	< 0.5	KGL-VBR-103	10/28/2011	4.6
		A	North	108	< 0.5	KGL-VBR-001	9/27/2011	11 J
		A	North	124	< 0.5	KGL-VBR-005	9/27/2011	17 J
		A	North	102	6	KGL-VBR-008	9/27/2011	1.5 J
		A	North	102	20	KGL-VBR-084	10/28/2011	1.2
		A	North	108	6	KGL-VBR-002	9/27/2011	1.1 J
		A	North	124	6	KGL-VBR-006	9/27/2011	0.98 J
	Low	A	North	207	< 0.5	KGL-VBR-040	10/6/2011	33
		A	East	211	< 0.5	KGL-VBR-029	10/3/2011	24
		A	East	314	< 0.5	KGL-VBR-032	10/4/2011	200
		A	East	112	0.75	KGL-VBR-088	10/28/2011	3.2
		A	North	208A	0.75	KGL-VBR-128	12/14/2011	8.5
		A	South	227	0.75	KGL-VBR-102	11/7/2011	10
		A	West	247	0.75	KGL-VBR-089	10/28/2011	16
		A	South	117A	0.75	KGL-VBR-098	11/3/2011	4.7
		A	North	313	0.75	KGL-VBR-127	12/14/2011	2.1
		A	South	327B	0.75	KGL-VBR-101	11/7/2011	48
		A	South	327B	0.75	KGL-VBR-119 [1]	11/23/2011	49
		A	South	332B	0.75	KGL-VBR-135	12/14/2011	12
		A	South	335	0.75	KGL-VBR-134	12/14/2011	12
		A	West	337	0.75	KGL-VBR-131	12/14/2011	9.9
		A	North	344	0.75	KGL-VBR-073	10/26/2011	12
		A	North	207	6	KGL-VBR-010	9/28/2011	1.2
		A	East	211	6	KGL-VBR-028	10/3/2011	1.2
		A	East	314	6	KGL-VBR-031	10/4/2011	0.71
Concrete Sill	High	C	East	7	10	KGL-VBC-016	9/29/2011	0.17
Terrazzo Floor	Low	B	North	203	< 0.5	KGL-VBT-015	9/29/2011	130
		B	North	202	0.75	KGL-VBT-095	11/1/2011	3.1
		B	North	302	< 0.5	KGL-VBT-017	9/30/2011	1.5
Plaster Ceiling	Low	B	North	203	0.75	KGL-VBP-094	11/1/2011	12 J
		B	North	302	0.75	KGL-VBP-096	11/1/2011	9.9 J

Notes:
Verification samples collected in accordance with EPA Region I Standard Operating Procedure for Sampling Porous Surfaces for PCBs (May 2011).
Total PCBs reported as Aroclor 1248 and/or 1254. No other Aroclors reported above the minimum laboratory reporting limits.
J = Analytical results estimated based on data validation. See Appendix C for additional information.
1. Follow-up sample collected to confirm analytical results of initial sample at this location (-101). See completion report text for additional information.

Table 2-5
Summary of Verification Wipe Sampling Results
Exterior Building Materials

Kline Geology Laboratory

Wipe Sample Results										
Sample Description		Total Number of Coatings		3	Total Number of Coatings		4	Total Number of Coatings		5
Materials	Location	Sample ID	Sample Date	Total PCBs ($\mu g/100cm^2$)	Sample ID	Sample Date	Total PCBs ($\mu g/100cm^2$)	Sample ID	Sample Date	Total PCBs ($\mu g/100cm^2$)
Brick w/KlenzSeal	Room 108	KGL-VWB-035	10/4/2012	0.58	- - -	- - -	- - -	- - -	- - -	- - -
	Room 106B	KGL-VWB-156	1/18/2012	< 0.20	- - -	- - -	- - -	- - -	- - -	- - -
	Room 102 Eastern Window	KGL-VWB-143	1/13/2012	< 0.20	- - -	- - -	- - -	- - -	- - -	- - -
	Room 102 Center Window	KGL_VWB-145	1/13/2012	< 0.20	- - -	- - -	- - -	- - -	- - -	- - -
	Room 102 Western Window	KGL-VWB-147	1/13/2012	14	KGL-VWB-161	1/26/2012	< 0.20	- - -	- - -	- - -
	Room 124	KGL-VWB-149	1/13/2012	6	KGL-VWB-162	1/26/2012	0.51	- - -	- - -	- - -
	Room 126	KGL-VWB-151	1/13/2012	0.92	- - -	- - -	- - -	- - -	- - -	- - -
Brownstone w/Durashine	Room 108	KGL-VWR-137	1/13/2012	3.2	KGL-VWR-159	1/26/2012	1.1	KGL-VWR-164	3/8/2012	< 0.20
	Room 106B	KGL-VWR-155	1/18/2012	< 0.20	- - -	- - -	- - -	- - -	- - -	- - -
	Room 102 Eastern Window	KGL-VWR-157	1/18/2012	0.97	- - -	- - -	- - -	- - -	- - -	- - -
	Room 102 Center Window	KGL-VWR-144	1/13/2012	< 0.20	- - -	- - -	- - -	- - -	- - -	- - -
	Room 102 Western Window	KGL-VWR-146	1/13/2012	1.1	KGL-VWR-160	1/26/2012	0.65	- - -	- - -	- - -
	Room 124	KGL-VWR-148	1/13/2012	0.66	- - -	- - -	- - -	- - -	- - -	- - -
	Room 126	KGL-VWR-150	1/13/2012	0.55	- - -	- - -	- - -	- - -	- - -	- - -
	Room 327B (low occupancy area)	KGL-VWR-158	1/13/2012	0.36	- - -	- - -	- - -	- - -	- - -	- - -
Concrete Sills w/Durashine	B07	KGL-VWC-152	1/13/2012	2.2 J	KGL-VWC-163	1/26/2012	1.7	KGL-VWC-165	3/8/2012	< 0.20

Notes:
All wipe samples collected in accordance with standard wipe procedures in 40 CFR 761.123.
Samples collected from high occupancy areas with the exception of Room 327B as noted.
Total Number of Coats does not include coatings applied during pilot test activities on materials surrounding the Room 108 window.
J = Analytical results estimated based on data validation. See Appendix C for additional information.

Table 2-6
Summary of Post Abatement Indoor Air Sampling Results
Yale University - Kline Geology Laboratory

Floor	Air Sample	PCB Concentration (ng/cartridge)	Flow Rate (L/Minute)	Duration (minutes)	PCB Concentration (ng/m^3)	Air Sample	PCB Concentration (ng/cartridge)	Flow Rate (L/Minute)	Duration (minutes)	PCB Concentration (ng/m^3)
Project Action Level: 450 ng/m^3										
Room	**Pre PCB Remediation Indoor Air Samples July 15, 2011**					**Post PCB Remediation Indoor Air Samples March 15, 2014**				
First Floor										
Rm 101	-	-	-	-	-	KGL-IAS-001	260	2.646	261	378.8
Rm 110	A110	600	4.8	247	510	KGL-IAS-002	92	2.655	269	130.1
Rm 117A	- -	- -	- -	- -	- -	KGL-IAS-003	26	2.555	265	38.9
Rm 122	- -	- -	- -	- -	- -	KGL-IAS-004	20	2.623	265	29.2
Second Floor										
Rm 219D	- -	- -	- -	- -	- -	KGL-IAS-005	18	2.693	261	26.1
Rm 214	- -	- -	- -	- -	- -	KGL-IAS-006	45	2.645	260	66.8
Rm 208A	A208A	100	4.2	243	99	KGL-IAS-007	6.4	2.686	257	9.5
Rm 208A	- -	- -	- -	- -	- -	KGL-IAS-008	8.2	2.592	259	12.5
Rm 247	- -	- -	- -	- -	- -	KGL-IAS-009	71	2.655	261	104.8
Rm 230	- -	- -	- -	- -	- -	KGL-IAS-014	45	2.619	251	70.3
Third Floor										
Rm 320	- -	- -	- -	- -	- -	KGL-IAS-010	95	2.619	260	143.2
Rm 313	- -	- -	- -	- -	- -	KGL-IAS-011	15	2.652	261	22.2
Rm 344	A344	390	4.2	244	380	KGL-IAS-012	33	2.610	259	50.0
Rm 335	A335	610	4.2	242	600	KGL-IAS-013	32	2.645	258	48.1 J/UJ

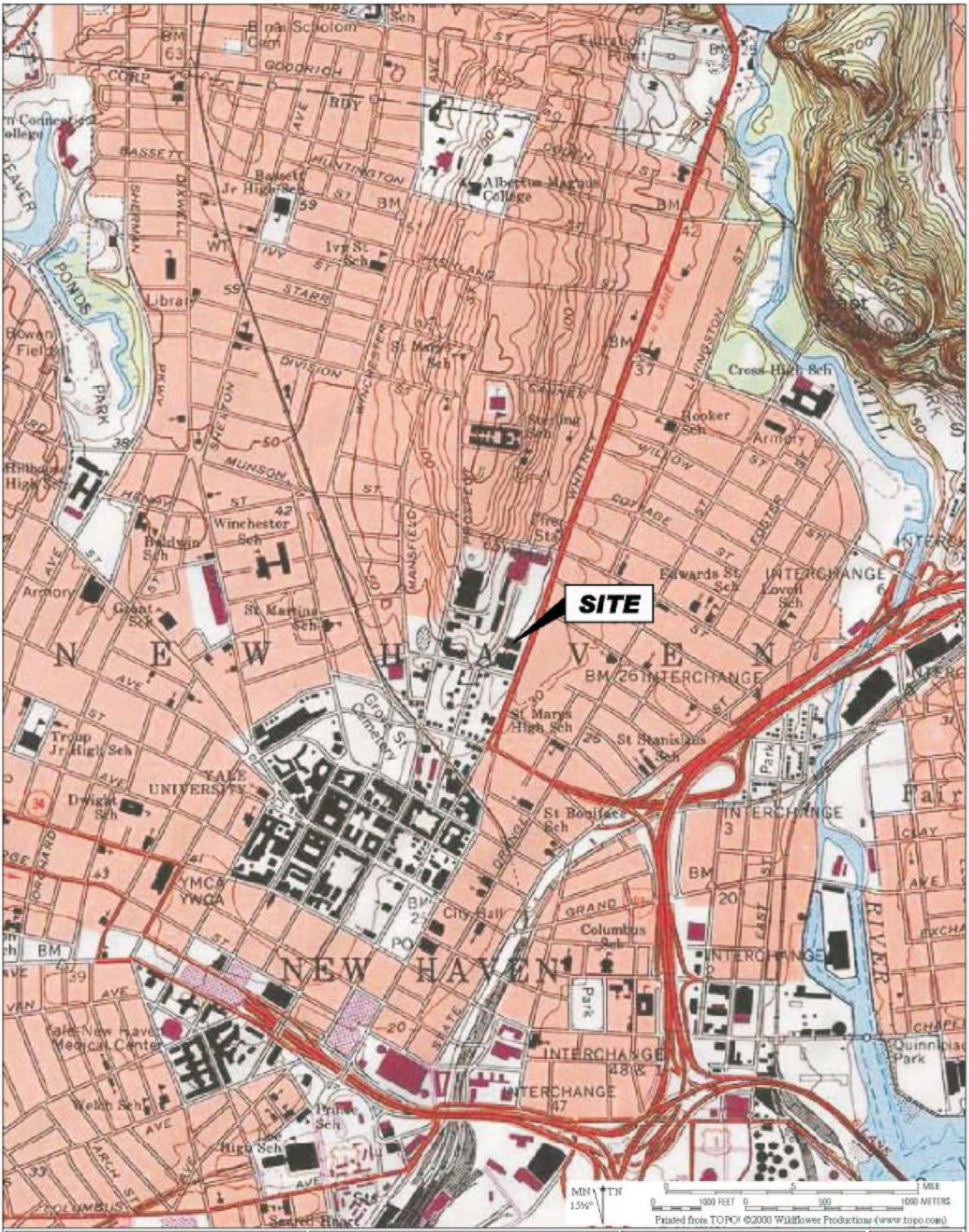
Notes:
Project Action Level based on EPA published guidance for indoor air in public schools (September 2009) as described in the *Plan for Initial Post-Abatement Indoor Air and Interior Surface Wipe Sampling* dated January 10, 2012.
Air samples collected in accordance with USEPA Compendium Method TO-10A "Determination of Pesticides and Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)" and submitted for laboratory analysis of PCBs homologs.
J/UJ = Analytical results qualified as estimated based on results of data validation.

Table 2-7
Summary of Post-Abatement Wipe Sampling Results

Kline Geology Laboratory

Room Number	Location	Post-Abatement Wipes			
		Sample ID	Sample Date	Reporting Limit	Total PCBs
101	Table Top	KGL-VWP-016	3/15/2014	0.20	0.21 J
110	Desk Top	KGL-VWP-017	3/15/2014	0.20	< 0.20
117A	Desk Top	KGL-VWP-018	3/15/2014	0.20	< 0.20
122	Table Top	KGL-VWP-019	3/15/2014	0.20	< 0.20
219D	Counter Top	KGL-VWP-020	3/15/2014	0.20	< 0.20
214	Filing Cabinet	KGL-VWP-021	3/15/2014	0.20	< 0.20
208A	Table Top	KGL-VWP-022	3/15/2014	0.20	0.24
247	Desk Top	KGL-VWP-023	3/15/2014	0.20	< 0.20
320	Desk Top	KGL-VWP-024	3/15/2014	0.20	< 0.20
313	Rolling Cart	KGL-VWP-025	3/15/2014	0.20	< 0.20
344	Lab Bench	KGL-VWP-026	3/15/2014	0.20	< 0.20
335	Counter Top	KGL-VWP-028	3/15/2014	0.20	0.25
230	Filing Cabinet	KGL-VWP-029	3/15/2014	0.20	< 0.20

Notes:
Wipe samples collected in accordance with 40 CFR 761.123.
Samples extracted via USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs by USEPA Method 8082.
Total PCBs reported as Aroclor 1254. No other Aroclor reported above the minumum laboratory reporting limit.
J = Analytical results qualified as estimated based on data validation.



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YALE UNIVERSITY
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NEW HAVEN, CONNECTICUT

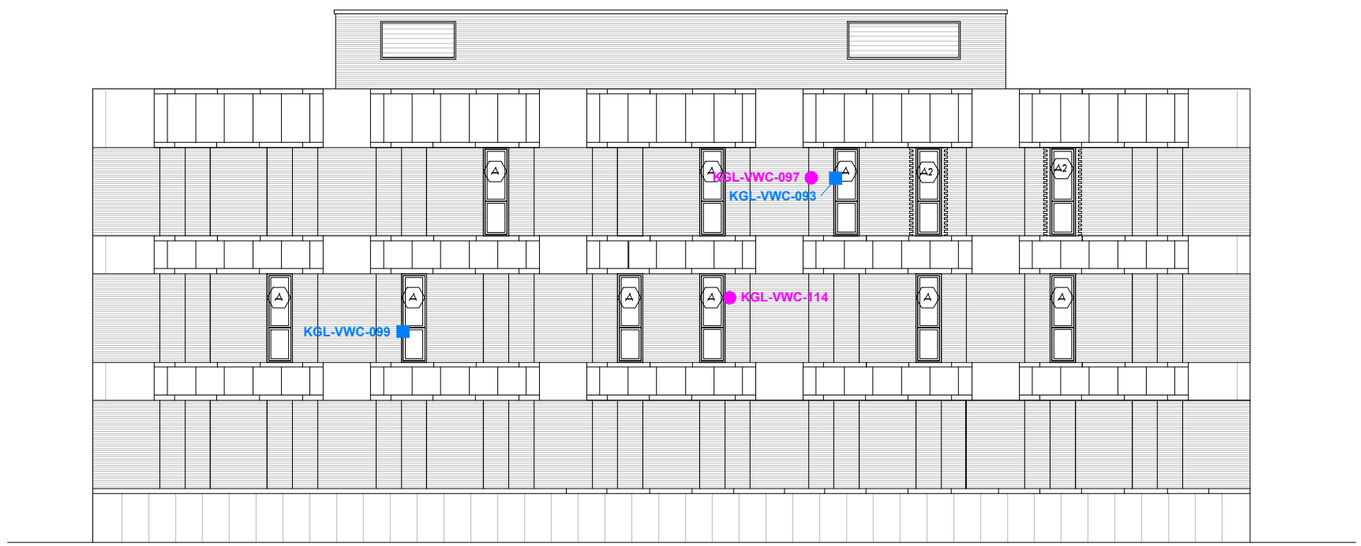
SCALE: AS NOTED	JOB NO.: 224415
DATE: APRIL 2011	FILE: Figure 1-1.env

SITE LOCATION

DES BY: EVR
DR BY: EVR
CK BY: GJF

1-1

22x34 SHEET
1:2



WEST ELEVATION

LEGEND

KGL-VWC-041 — DIRECT CONTACT CMU BLOCK VERIFICATION WIPE SAMPLE LOCATION AND IDENTIFIER. SAMPLE COLLECTED FROM MATERIALS FORMERLY IN DIRECT CONTACT WITH THE INTERIOR CAULKED JOINT, FOLLOWING ENCAPSULATION.

KGL-VWB-042 — DIRECT CONTACT BRICK AND BROWNSTONE VERIFICATION WIPE SAMPLE LOCATION AND IDENTIFIER. SAMPLE COLLECTED FROM MATERIALS FORMERLY IN DIRECT CONTACT WITH THE EXTERIOR CAULKED JOINT, FOLLOWING ENCAPSULATION.

KGL-VWC-072 — INTERIOR CMU BLOCK VERIFICATION WIPE SAMPLE LOCATION AND IDENTIFIER. SAMPLE COLLECTED FROM RANDOMLY SELECTED LOCATION ON ENCAPSULATED INTERIOR WALL, FOLLOWING ENCAPSULATION. (DEPICTED ON EXTERIOR OF BUILDING TO SHOW APPROXIMATE LOCATIONS IN RELATION TO WINDOWS).

KGL-VWB-035 — EXTERIOR BRICK AND BROWNSTONE VERIFICATION WIPE SAMPLE LOCATION AND IDENTIFIER. SAMPLE COLLECTED FROM MATERIALS BEYOND THE EXTENT OF THE REPLACEMENT WINDOW FRAMES FOLLOWING ENCAPSULATION.

NOTES:

1. ORIGINAL DESIGN DRAWINGS BY DAVID THOMPSON ARCHITECTS, LLC MODIFIED WITH THE ADDITION OF VERIFICATION SAMPLES COLLECTED FOR PCB REMEDIATION ACTIVITIES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DESIGN DRAWINGS.
2. SAMPLE LOCATIONS APPROXIMATED BASED ON FIELD MEASUREMENTS. SEE REPORT TABLES FOR DISTANCES OF INDIVIDUAL SAMPLES FROM FORMER CAULKED JOINTS.

NORTH ELEVATION

12' 8' 4' 0 8' 16'

BAR SCALE
1/8" = 1'-0"
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REV	DESCRIPTION	DATE

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DRAWN BY: EVR | FIGURE 2-1 _ 2-2.DWG

VERIFICATION WIPE SAMPLE LOCATIONS (NORTH AND WEST BUILDING ELEVATIONS)

YALE UNIVERSITY SELECTIVE RENOVATION FOR KLINE GEOLOGY WINDOW REPLACEMENT

COMPLETION REPORT

JOB NO.: 22415
DATE: AUGUST 2013
SCALE: AS NOTED
SHEET: OF

FIGURE 2-1

\\ANDOVER\Projects\224415 Yale - Kline Geolab PCBs\wip\Drawings\Completion Report\Figure 2-1 _ 2-2.dwg, Sep 06, 2013 - 3:56pm

22x34 SHEET
1:2

NOTES:

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2. SAMPLE LOCATIONS APPROXIMATED BASED ON FIELD MEASUREMENTS. SEE REPORT TABLES FOR DISTANCES OF INDIVIDUAL SAMPLES FROM FORMER CAULKED JOINTS.

LEGEND

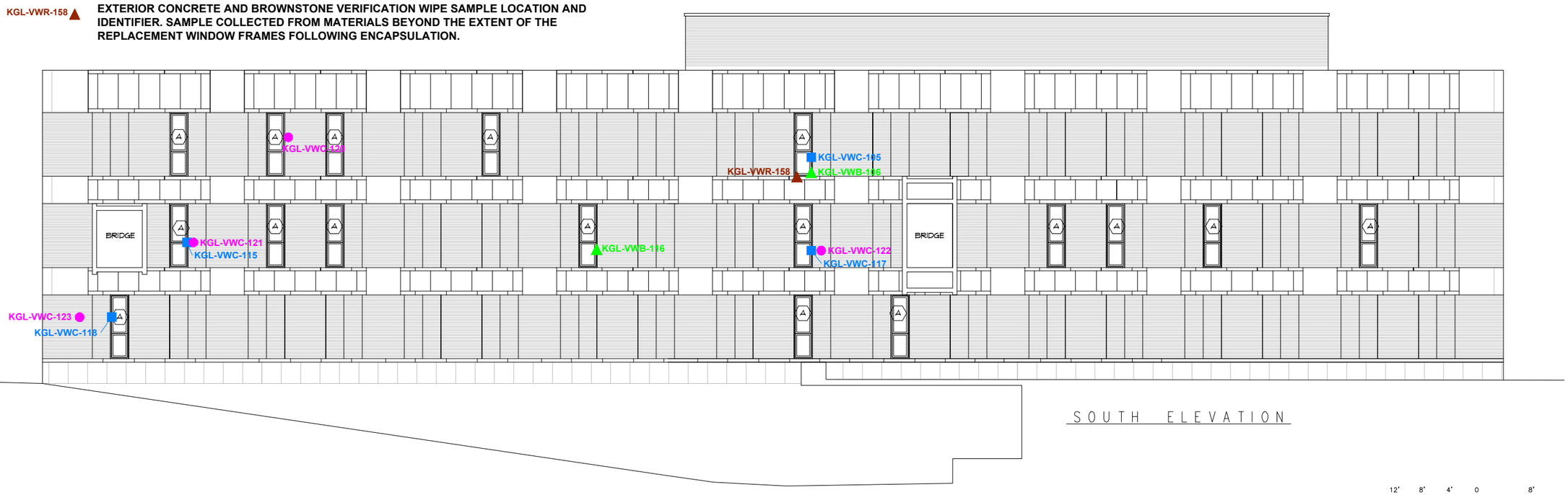
KGL-VWC-067 ■ DIRECT CONTACT CMU BLOCK VERIFICATION WIPE SAMPLE LOCATION AND IDENTIFIER. SAMPLE COLLECTED FROM MATERIALS FORMERLY IN DIRECT CONTACT WITH THE INTERIOR CAULKED JOINT, FOLLOWING ENCAPSULATION.

KGL-VWB-068 ▲ DIRECT CONTACT BRICK AND BROWNSTONE VERIFICATION WIPE SAMPLE LOCATION AND IDENTIFIER. SAMPLE COLLECTED FROM MATERIALS FORMERLY IN DIRECT CONTACT WITH THE EXTERIOR CAULKED JOINT, FOLLOWING ENCAPSULATION.

KGL-VWC-077 ● INTERIOR CMU BLOCK VERIFICATION WIPE SAMPLE LOCATION AND IDENTIFIER. SAMPLE COLLECTED FROM RANDOMLY SELECTED LOCATION ON ENCAPSULATED INTERIOR WALL, FOLLOWING ENCAPSULATION. (DEPICTED ON EXTERIOR OF BUILDING TO SHOW APPROXIMATE LOCATIONS IN RELATION TO WINDOWS).

KGL-VWR-158 ▲ EXTERIOR CONCRETE AND BROWNSTONE VERIFICATION WIPE SAMPLE LOCATION AND IDENTIFIER. SAMPLE COLLECTED FROM MATERIALS BEYOND THE EXTENT OF THE REPLACEMENT WINDOW FRAMES FOLLOWING ENCAPSULATION.

EAST ELEVATION



SOUTH ELEVATION

12' 8' 4' 0 8' 16'

BAR SCALE
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DRAWN BY: EVR FIGURE 2-1 _ 2-2.DWG

VERIFICATION WIPE SAMPLE LOCATIONS (SOUTH AND EAST BUILDING ELEVATIONS)

YALE UNIVERSITY SELECTIVE RENOVATION FOR KLINE GEOLOGY WINDOW REPLACEMENT

COMPLETION REPORT

JOB NO.: 22415
DATE: AUGUST 2013
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FIGURE 2-2

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22x34 SHEET
1:2

WEST ELEVATION

LEGEND

KGL-VBB-026 △	BRICK SAMPLE LOCATION AND IDENTIFIER
KGL-VBR-088 △	BROWNSTONE SAMPLE LOCATION AND IDENTIFIER
KGL-VBC-016 △	CONCRETE SILL SAMPLE LOCATION AND IDENTIFIER
KGL-VBP-094 △	PLASTER CEILING SAMPLE LOCATION AND IDENTIFIER
KGL-VBT-017 △	TERRAZZO FLOOR SAMPLE LOCATION AND IDENTIFIER

NOTES:

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2. SAMPLE LOCATIONS APPROXIMATED BASED ON FIELD MEASUREMENTS. SEE REPORT TABLES FOR DISTANCES OF INDIVIDUAL SAMPLES FROM FORMER CAULKED JOINTS.

NORTH ELEVATION

12' 8' 4' 0 8' 16'
BAR SCALE
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FIGURE 2-3 _ 2-4.DWG

BULK SAMPLE LOCATIONS
(NORTH AND WEST BUILDING ELEVATIONS)

YALE UNIVERSITY SELECTIVE RENOVATION FOR KLINE GEOLOGY WINDOW REPLACEMENT

COMPLETION REPORT

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FIGURE 2-3

\\ANDOVER\Projects\224415 Yale - Kline Geolab PCBs\wip\Drawings\Completion Report\Figure 2-3 _ 2-4.dwg, Sep 06, 2013 - 3:56pm

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1:2

NOTES:

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2. SAMPLE LOCATIONS APPROXIMATED BASED ON FIELD MEASUREMENTS. SEE REPORT TABLES FOR DISTANCES OF INDIVIDUAL SAMPLES FROM FORMER CAULKED JOINTS.

EAST ELEVATION

LEGEND

KGL-VBB-100 △ BRICK SAMPLE LOCATION AND IDENTIFIER

KGL-VBR-134 △ BROWNSTONE SAMPLE LOCATION AND IDENTIFIER

KGL-VBC-016 △ CONCRETE SILL SAMPLE LOCATION AND IDENTIFIER

SOUTH ELEVATION

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FIGURE 2-3 _ 2-4.DWG

BULK SAMPLE LOCATIONS
(SOUTH AND EAST BUILDING ELEVATIONS)

YALE UNIVERSITY SELECTIVE RENOVATION FOR KLINE GEOLOGY WINDOW REPLACEMENT

COMPLETION REPORT

JOB NO.: 22415
DATE: AUGUST 2013
SCALE: AS NOTED
SHEET: OF

FIGURE 2-4

\\ANDOVER\Projects\224415 Yale - Kline Geolab PCBs\wip\Drawings\Completion Report\Figure 2-3 _ 2-4.dwg, Sep 06, 2013 - 3:57pm

22x34 SHEET
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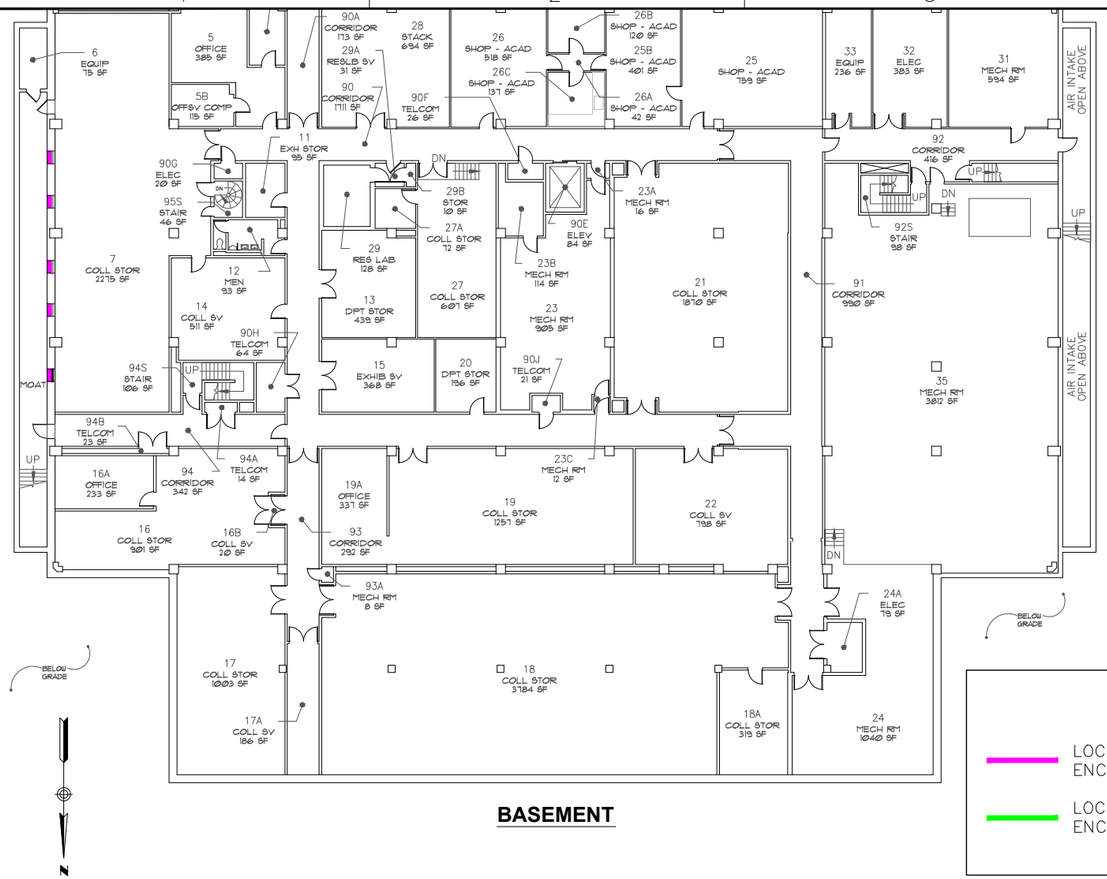
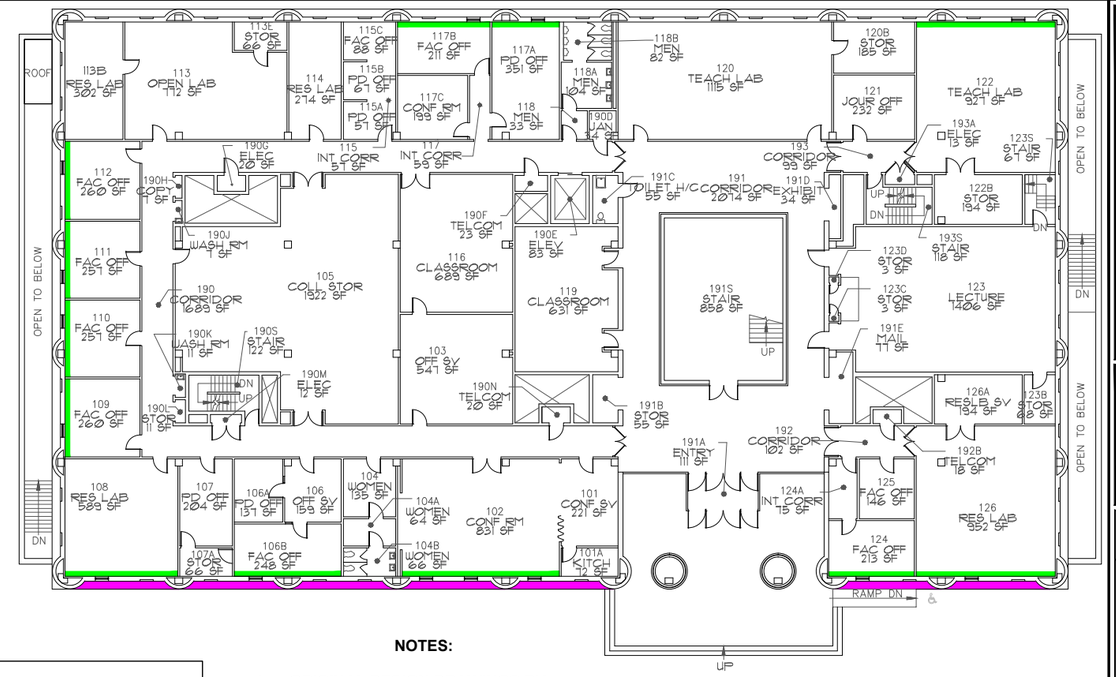


BASEMENT



FIRST FLOOR

LEGEND

LOCATION OF EXTERIOR ENCAPSULATED SURFACES

LOCATION OF INTERIOR ENCAPSULATED SURFACES

NOTES:

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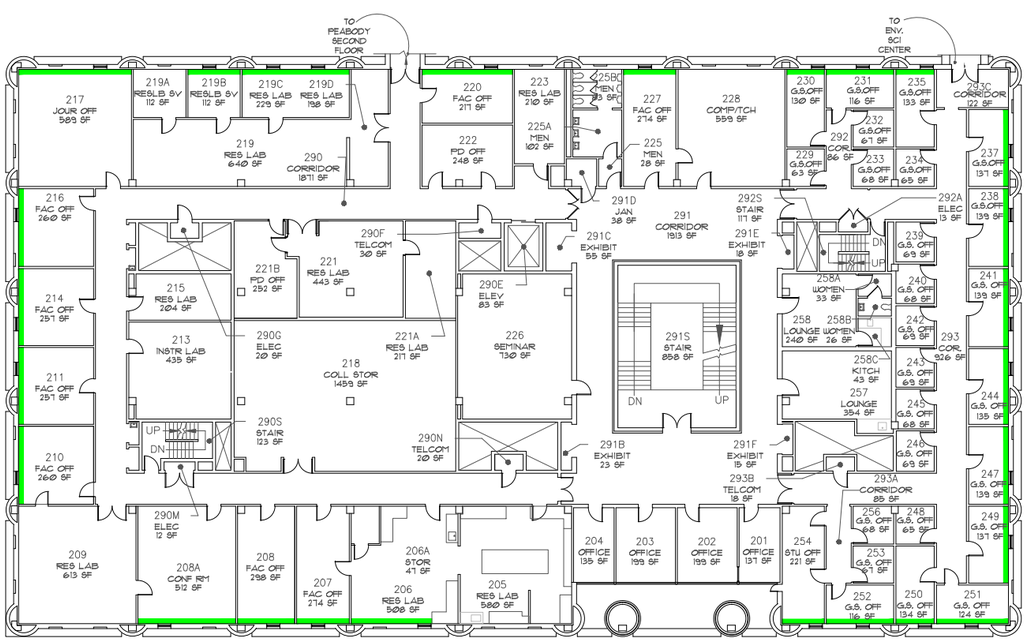
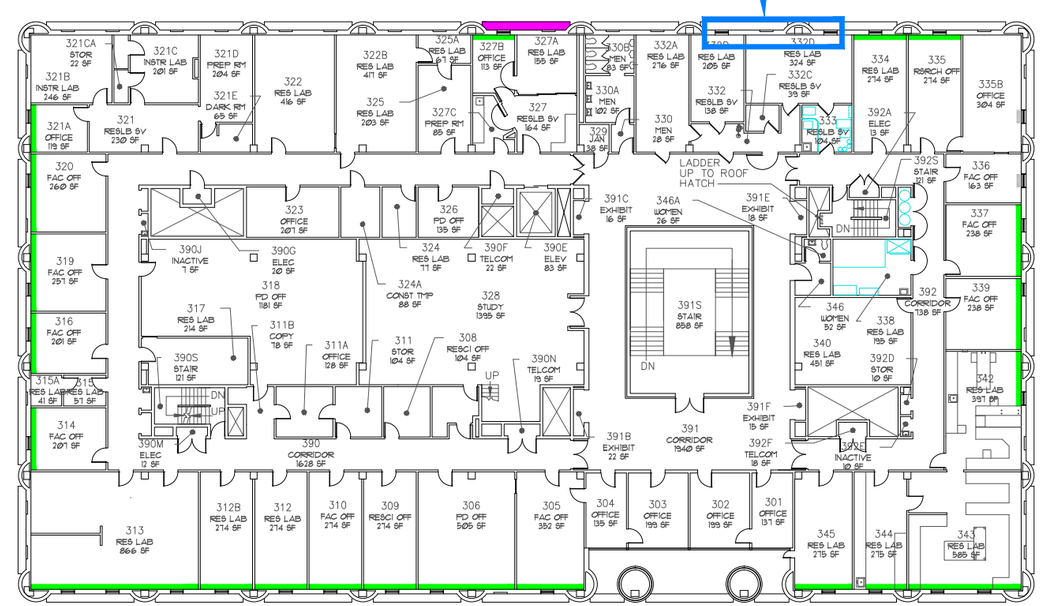
2. ENCAPSULATED MATERIALS FORMERLY IN DIRECT CONTACT WITH CAULKED JOINTS NOT DEPICTED.

WINDOWS SUBJECT TO TEMPORARY IN-PLACE MANAGEMENT DUE TO LOCATION WITHIN CLEAN ROOM.



SECOND FLOOR



THIRD FLOOR

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FIGURE 2-5.DWG

AREAS OF ENCAPSULATED SURFACES

YALE UNIVERSITY
KLINE GEOLOGY LABORATORY

COMPLETION REPORT

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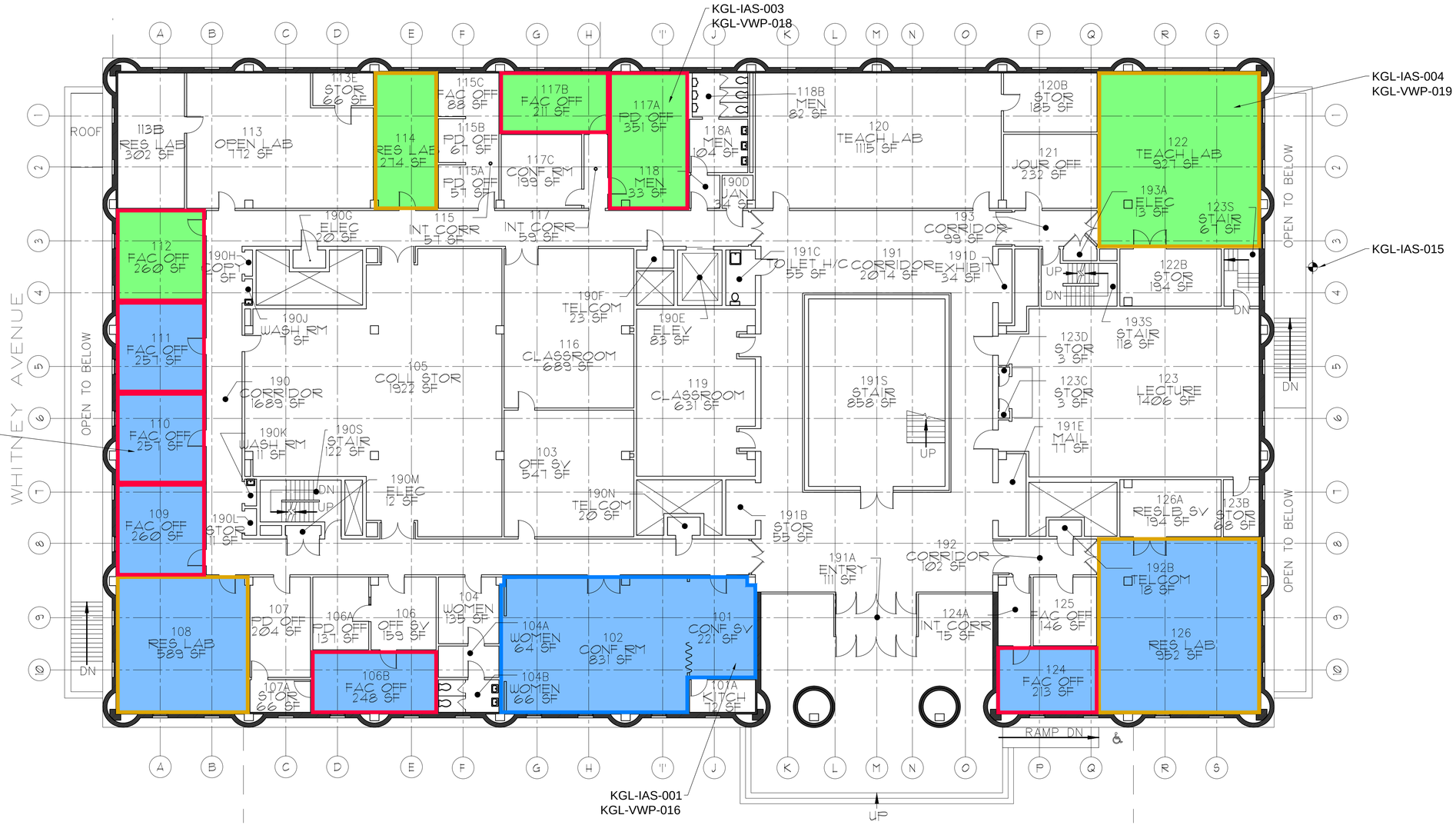
DATE: AUGUST 2013
SCALE: 1/16"=1'-0"
SHEET: OF

FIGURE 2-5

\\ANDOVER\Projects\224415 Yale - Kline Geolab PCBs\wip\Drawings\Completion Report\Figure 2-5.dwg, Aug 28, 2013 - 1:12pm



LEGEND

- OFFICES WITH WINDOWS
- LABS WITH WINDOWS
- CONFERENCE ROOMS WITH WINDOWS
- ROOMS WITH WINDOWS IN VENTILATION ZONE 1
- ROOMS WITH WINDOWS IN VENTILATION ZONE 2
- KGL-IAS-002 — POST–ABATEMENT INDOOR AIR SAMPLE IDENTIFIER (ARROW POINTS TO THE ROOM THE SAMPLE WAS COLLECTED IN)
- KGL-VWP-017 — POST–ABATEMENT SURFACE WIPE SAMPLE IDENTIFIER (ARROW POINTS TO THE ROOM THE SAMPLE WAS COLLECTED IN)

NOTE:

ORIGINAL DESIGN DRAWINGS BY DAVID THOMPSON ARCHITECTS, LLC MODIFIED TO DISPLAY FEATURES RELATED TO THE POST–ABATEMENT SAMPLING PLAN. ALL OTHER INFORMATION INCLUDED AS PRESENTED IN THE ORIGINAL DESIGN DOCUMENTS.

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

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

WOODARD & CURRAN
40 Shattuck Road | Suite 110
Andover, Massachusetts 01810
866.702.6371 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

THIS DOCUMENT IS THE PROPERTY OF WOODARD & CURRAN INC. AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

REV	DESCRIPTION	DATE

DESIGNED BY: CJF | CHECKED BY: JAH
DRAWN BY: EVR/PF | 224415-QR-2-6.DWG

POST ABATEMENT SAMPLE LOCATIONS – FIRST FLOOR LOCATIONS

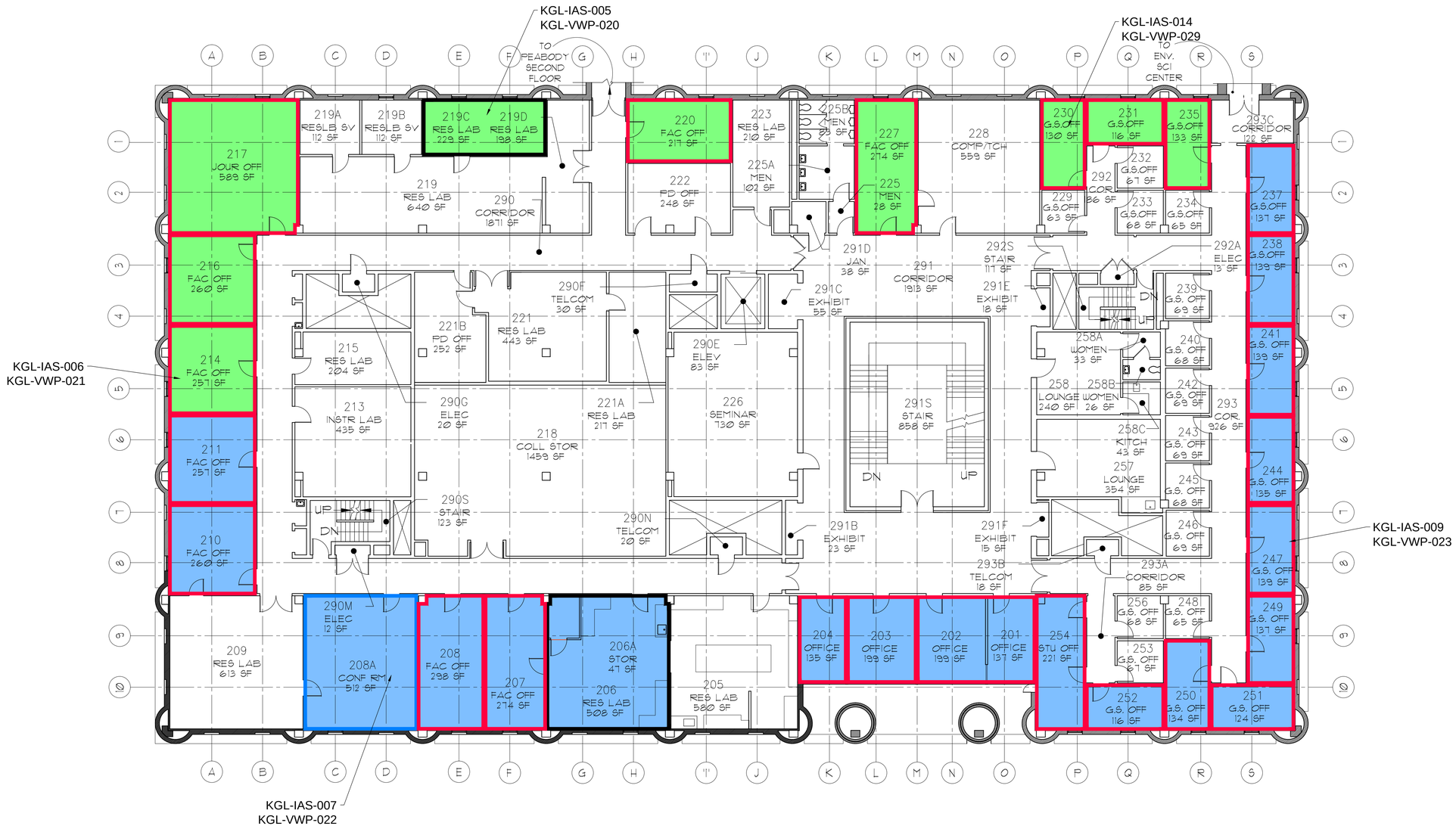
YALE UNIVERSITY
KLINE GEOLOGY LABORATORY

COMPLETION REPORT

JOB NO.: 224415
DATE: MARCH 2014
SCALE: AS NOTED
SHEET: OF

FIGURE 2-6

\\ANDOVER\Projects\224415 Yale – Kline Geolab PCBs\wip\Drawings\Completion Report\224415-QR-2-6.dwg, Mar 28, 2014 – 2:52pm



LEGEND

- OFFICES WITH WINDOWS
- LABS WITH WINDOWS
- CONFERENCE ROOMS WITH WINDOWS
- ROOMS WITH WINDOWS IN VENTILATION ZONE 1
- ROOMS WITH WINDOWS IN VENTILATION ZONE 2
- KGL-IAS-007 — POST-ABATEMENT INDOOR AIR SAMPLE IDENTIFIER (ARROW POINTS TO THE ROOM THE SAMPLE WAS COLLECTED IN)
- KGL-VWP-022 — POST-ABATEMENT SURFACE WIPE SAMPLE IDENTIFIER (ARROW POINTS TO THE ROOM THE SAMPLE WAS COLLECTED IN)

NOTE:

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

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

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REV	DESCRIPTION	DATE

DESIGNED BY: GJF
DRAWN BY: EVR/PF
CHECKED BY: JAH
224415-CR- 2-7.DWG

POST ABATEMENT SAMPLE LOCATIONS – SECOND FLOOR LOCATIONS

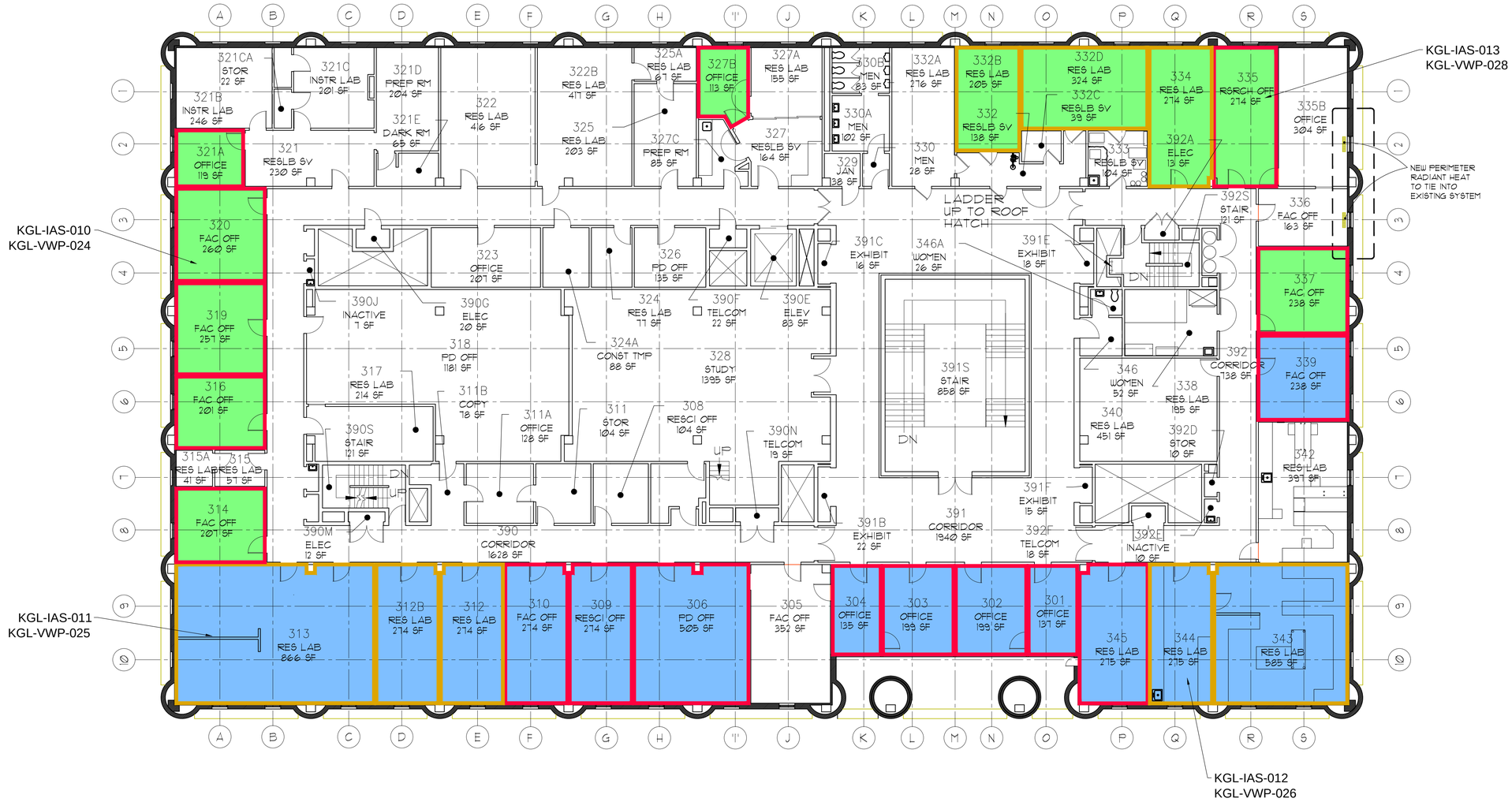
YALE UNIVERSITY
KLINE GEOLOGY LABORATORY

COMPLETION REPORT

JOB NO.: 224415
DATE: MARCH 2014
SCALE: AS NOTED
SHEET: OF

FIGURE 2-7

\\ANDOVER\Projects\224415 Yale – Kline Geolab PCBs\wip\Drawings\Completion Report\224415-CR- 2-7.dwg, Mar 28, 2014 – 2:53pm



LEGEND

- OFFICES WITH WINDOWS
- LABS WITH WINDOWS
- ROOMS WITH WINDOWS IN VENTILATION ZONE 1
- ROOMS WITH WINDOWS IN VENTILATION ZONE 2
- KGL-IAS-011 — POST–ABATEMENT INDOOR AIR SAMPLE IDENTIFIER (ARROW POINTS TO THE ROOM THE SAMPLE WAS COLLECTED IN)
- KGL-VWP-025 — POST–ABATEMENT SURFACE WIPE SAMPLE IDENTIFIER (ARROW POINTS TO THE ROOM THE SAMPLE WAS COLLECTED IN)

NOTE:

ORIGINAL DESIGN DRAWINGS BY DAVID THOMPSON ARCHITECTS, LLC MODIFIED TO DISPLAY FEATURES RELATED TO THE POST–ABATEMENT SAMPLING PLAN. ALL OTHER INFORMATION INCLUDED AS PRESENTED IN THE ORIGINAL DESIGN DOCUMENTS.

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

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

WOODARD & CURRAN
40 Shattuck Road | Suite 110
Andover, Massachusetts 01810
866.702.6371 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS

PROPRIETARY: THE WOODARD & CURRAN, INC. AND ITS CLIENT. REPRODUCTION OR MODIFICATION WITHOUT WRITTEN PERMISSION IS PROHIBITED.

REV	DESCRIPTION	DATE

DESIGNED BY: CJF | CHECKED BY: JAH
DRAWN BY: EVR/PF | 224415-CR- 2-8.DWG

POST ABATEMENT SAMPLE LOCATIONS – THIRD FLOOR LOCATIONS

YALE UNIVERSITY
KLINE GEOLOGY LABORATORY

COMPLETION REPORT

JOB NO.: 224415
DATE: MARCH 2014
SCALE: AS NOTED
SHEET: OF

FIGURE 2-8

\\ANDOVER\Projects\224415 Yale – Kline Geolab PCBs\wip\Drawings\Completion Report\224415-CR- 2-8.dwg, Mar 28, 2014 – 2:54pm

APPENDIX A: EPA APPROVAL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

SEP 19 2011

John Bollier, Associate Vice President
Yale University
2 Whitney Avenue, 7th Floor
New Haven, Connecticut 06510-1220

Re: PCB Decontamination and Disposal Approval under 40 CFR § 761.61(c) and § 761.79(h)
Kline Geology Laboratory
Yale University, New Haven, Connecticut

Dear Mr. Bollier:

This is in response to the Yale University (Yale) Notification[1] for approval of a proposed plan to address PCB contamination at the Kline Geology Laboratory (the Site) located at 210 Whitney Avenue, New Haven, Connecticut. The Site contains PCB-contaminated materials that exceed the allowable PCB levels under 40 CFR § 761.20(a), §761.61 and § 761.62. Specifically, PCBs have been found in window caulk and glazing and in the adjacent building substrates (i.e., concrete, concrete block (CMU), brick, brownstone, plaster and terrazzo tiles)

Yale has requested an approval under 40 CFR § 761.61(c) that includes the following activities:

- Remove and dispose of PCB caulk with greater than or equal to ($\geqslant$ 50 parts per million (ppm) in a TSCA approved or hazardous waste landfill;
- Remove *non-porous surfaces* (e.g., metal window frames and components, including glazing) in direct contact with PCB caulk, and dispose of as a $\geq$50 ppm waste in a TSCA approved or hazardous waste landfill;
- Conduct additional characterization sampling of exterior *porous surfaces* to define extent of PCB contamination for encapsulation; and,

[1] The Notification was prepared by Woodard & Curran on behalf of the Yale to satisfy the requirements under 40 CFR § 761.61(c) and § 761.79(h). Information was submitted dated August 5, 2011 (PCB Remediation Plan); September 1, 2011 (Response to EPA Comments); and, September 13, 2011 (email clarification on brownstone encapsulation). These submittals shall be referred to as the "Notification".

- Encapsulate PCB-contaminated *porous surfaces* (i.e., concrete, CMU, brick, brownstone, plaster and terrazzo tiles) with two coats of an elastomeric acrylic-based coating or liquid sealant if the PCB concentration is greater than (>) 1 ppm in areas considered to be *high occupancy areas* or > 25 ppm in areas considered to be *low occupancy areas* as defined in § 761.3.

Based on the EPA's review, the information provided in the Notification meets the requirements under § 761.62(a) and § 761.79(h) for abatement of PCB caulk and glazing and PCB-contaminated *non-porous surfaces* and § 761.61(c) for encapsulation of the PCB-contaminated *porous surfaces*. EPA finds that the proposed encapsulation of PCB-contaminated *porous surfaces* should effectively prevent direct exposure of these PCB-contaminated *porous surfaces* to building users provided the physical barriers are maintained. As such, EPA may approve the encapsulation under § 761.61(c).

Yale may proceed with its project in accordance with 40 CFR § 761.61(c); § 761.62(a); § 761.79(h); its Notification; and, this Approval, subject to the conditions of Attachment 1. Under this Approval, EPA is reserving its rights to require additional investigation or mitigation measures should EPA determine that the encapsulation is not effective in eliminating exposure to PCBs. Please note that Yale will be required to record a notation on the deed as required under § 761.61(a)(8) since PCBs at greater than (>) 1 ppm will remain on the Site.

This Approval only addresses cleanup and disposal of the *PCB bulk product waste* and *PCB remediation waste* identified in the Notification. In the event Yale identifies other PCB contamination at the Site, including but not limited to, other non-liquid PCB products or PCB-contaminated soils, Yale may modify its plan to clean up these PCBs in accordance with Attachment 1, Condition 17. Otherwise, Yale shall submit a separate plan to address cleanup of the PCB materials in accordance with 40 CFR 761.

This Approval does not release Yale from any applicable requirements of federal, state or local law, including the requirements related to cleanup and disposal of PCBs or other contaminants under the Connecticut Department of Energy and Environmental Protection (CT DEEP) regulations.

Questions and correspondence regarding this Approval should be directed to:

Kimberly N. Tisa, PCB Coordinator (OSRR07-2)
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1527
Facsimile: (617) 918-0527

EPA shall not consider this project complete until it has received all submittals required under this Approval. Please be aware that upon EPA receipt and review of the submittals, EPA may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Notification, and this Approval.

Sincerely,

James T. Owens III, Director
Office of Site Remediation & Restoration

cc S. Murdzia, Yale
D. Monz, Updike, Kelly & Spellacy, P.C.
J. Hamel, Woodard & Curran
G. Trombly, CT DEEP
File

Attachment 1 – PCB Approval Conditions
Attachment 2 - *Standard Operating Procedure For Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs) Revision 4, May 5, 2011*

ATTACHMENT 1:

PCB DECONTAMINATION AND DISPOSAL APPROVAL CONDITIONS
KLINE GEOLOGY LABORATORY (the Site)
YALE UNIVERSITY
NEW HAVEN, CONNECTICUT

GENERAL CONDITIONS

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to the *PCB bulk product waste* and the *PCB remediation waste* located at the Site and identified in the Notification.

2. Yale University (Yale) shall conduct on-site activities in accordance with the conditions of this Approval and with the Notification.

3. In the event that the cleanup plan described in the Notification differs from the conditions specified in this Approval, the conditions of this Approval shall govern.

4. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.

5. Yale must comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during response actions, Yale shall contact EPA within 24 hours for direction on PCB cleanup and sampling requirements.

6. Yale is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time Yale has or receives information indicating that Yale or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within 24 hours of having or receiving the information.

7. This Approval does not constitute a determination by EPA that the transporters or disposal facilities selected by Yale are authorized to conduct the activities set forth in the Notification. Yale is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.

8. This Approval does not: 1) waive or compromise EPA's enforcement and regulatory authority; 2) release Yale from compliance with any applicable requirements of federal, state or local law; or 3) release Yale from liability for, or otherwise resolve any violations of federal, state or local law.

NOTIFICATION AND CERTIFICATION CONDITIONS

9. This Approval may be revoked if the EPA does not receive written notification from Yale of its acceptance of the conditions of this Approval within 10 business days of receipt.

10. Yale shall submit the following information for EPA review and/or approval:

    a. A certification signed by its selected abatement/demolition contractor, stating that the contractor(s) has read and understands the Notification, and agrees to abide by the conditions specified in this Approval;

    b. A contractor work plan, prepared and submitted by the selected demolition or abatement contractor(s) describing the containment and air monitoring that will be employed during abatement activities. This work plan should also include information on how and where wastes will be stored and disposed of, and on how field equipment will be decontaminated; and,

    c. A certification signed by the selected analytical laboratory, stating that the laboratory has read and understands the extraction and analytical method requirements and quality assurance requirements specified in the Notification and in this Approval.

DECONTAMINATION AND DISPOSAL CONDITIONS

11. To the maximum extent practical, engineering controls, such as barriers, and removal techniques, such as the use of HEPA ventilated tools, shall be utilized during removal processes. In addition, to the maximum extent possible, disposable equipment and materials, including PPE, will be used to reduce the amount of decontamination necessary.

12. PCB-contaminated building materials shall be abated and verification sampling and analysis shall be conducted as described below:

    a. All visible residues of PCB caulk and associated wastes, including PCB-contaminated window frames and components, shall be removed and disposed of as described in the Notification.

b. PCB-contaminated *porous surfaces* shall be encapsulated as described in the Notification. The following decontamination standards shall apply (i.e., encapsulation shall not be required):

i) *High Occupancy Areas*: less than or equal to ($\leq$ 1 part per million (ppm) PCBs

(1) Indoor *porous surfaces* (i.e., CMU)

(2) Exterior *porous surfaces* (i.e., brick and brownstone) on the north elevations of the first floor

(3) Exterior *porous surfaces* (i.e., concrete) on the east elevations of the basement

ii) *Low Occupancy Areas*: less than or equal to ($\leq$ 25 ppm PCBs

(1) Exterior *porous surfaces* (i.e., brick and brownstone) on the east and south elevations of the first floor

(2) Exterior *porous surfaces* (i.e., brick, brownstone, plaster, and terrazzo tiles) on the second and third floor

c. Following encapsulation of PCB-contaminated *porous surfaces*, post-encapsulation sampling shall be conducted to determine the effectiveness of the encapsulation.

i) Surface wipe samples shall be collected from encapsulated *porous surfaces*. Wipe sampling of encapsulated surfaces shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e., $\mu g/100\ cm^2$).

ii) Chemical extraction for PCBs shall be conducted using Method 3500B/3540C of SW-846; and, chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction or analytical method(s) is validated according to Subpart Q.

iii) In the event that PCB concentrations in the wipe samples are greater than (>) 1 $\mu g/100\ cm^2$, Yale shall contact EPA for further discussion and direction on alternatives.

d. Initial post-abatement indoor air sampling and indoor surface wipe sampling for PCBs shall be conducted to determine the impact of the abatement activities.

i) Initial post-abatement sampling

(1) Indoor air sampling shall be conducted in accordance with EPA Method TO-4A or TO-10A. Sufficient sample volumes shall be collected to provide a minimum laboratory reporting limit of less than (<) 0.05 $\mu g/m^3$. At a minimum, PCB analysis shall include PCB homologues and/or PCB congeners.

(2) Wipe sampling of indoor surfaces shall be performed on a surface area basis by the standard wipe test as specified in 40 CFR § 761.123 (i.e. $\mu g/100\ cm^2$). Chemical extraction for PCBs shall be conducted using Methods 3500B/3540C of SW-846 and chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another method(s) is validated according to Subpart Q.

ii) In the event that PCB concentrations in the wipe samples are greater than or equal to (≥) 1 $\mu g/100\ cm^2$ or air samples results are > 0.450 $\mu g/m^3$, Yale shall contact EPA for further discussion and direction on alternatives, which may include development of a site-specific risk exposure assessment.

iii) Within 7 days of receipt of this Approval, Yale shall submit a plan identifying the number and locations of the post-abatement air and surface wipe samples.

e. Yale shall submit a monitoring and maintenance implementation plan (MMIP) to monitor the long-term effectiveness of the encapsulants. (See Condition 15).

13. PCB waste (at any concentration) generated as a result of the activities described in the Notification, excluding any decontaminated materials, shall be marked in accordance with CFR 40 CFR § 761.40; stored in a manner consistent with 40 CFR § 761.65; and, disposed of in accordance with 40 CFR § 761.61 or § 761.62, unless otherwise specified below.

a. Decontamination wastes and residues shall be disposed of in accordance with 40 CFR § 761.79(g)(6).

b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either 40 CFR § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).

c. PCB-contaminated water generated during decontamination shall be decontaminated in accordance with 40 CFR § 761.79(b)(1) or disposed of under § 761.60.

DEED RESTRICTION AND USE CONDITIONS

14. Within thirty (30) days of completing the activities described in the Notification and in the Approval, Yale shall submit for EPA review and approval, a draft deed restriction for the Site. The deed restriction shall include: a description of the extent and levels of contamination at the Site following abatement; a description of the actions taken at the Site; a description of the use restrictions for the Site; and the long-term monitoring and maintenance requirements on the Site. Within seven (7) days of receipt of EPA's approval of the draft deed restriction, Yale shall record the deed restriction. A copy of this Approval shall be attached to the deed restriction.

INSPECTION, MODIFICATION AND REVOCATION CONDITIONS

15. Within 60 days of completion of the work authorized under this Approval, Yale shall submit for EPA's review and approval, a detailed monitoring and maintenance implementation plan (MMIP) for the surface barriers. Yale shall incorporate any changes to the MMIP required by EPA.

    a. The MMIP shall include: a description of the activities that will be conducted, including inspection criteria, frequency, and routine maintenance activities; sampling protocols, sampling frequency, and analytical criteria; and, reporting requirements, as applicable.

    b. The MMIP shall include a communications component which details how the maintenance and monitoring results will be communicated to the Site users, including parents, students, other on-site workers, and interested stakeholders.

    c. The MMIP also shall include a worker training component for maintenance workers or for any person that will be conducting work that could impact the barriers encapsulating the PCB-contaminated surfaces.

    d. Yale shall submit the results of these long-term monitoring and maintenance activities to EPA. Based on its review of the results, EPA may determine that modification to the MMIP is necessary in order to monitor and/or evaluate the long-term effectiveness of the barriers.

    e. Activities required under the MMIP shall be conducted until such time that EPA determines, in writing, that such activities are no longer necessary.

16. Yale shall allow any authorized representative of the Administrator of the EPA to inspect the Site and to inspect records and take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by Yale to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval.

17. Any modification(s) in the plan, specifications, or information submitted by Yale, contained in the Notification, and forming the basis upon which this Approval has been issued, must receive prior written approval from the EPA. Yale shall inform the EPA of any modification, in writing, at least ten (10) days prior to such change. No action may be taken to implement any such modification unless the EPA has approved of the modification, in writing. The EPA may request additional information in order to determine whether to approve the modification. If such modification involves a change in the use of the Site which results in exposures not considered in the Notification, the EPA may revoke, suspend, and/or modify this Approval upon finding that this risk-based cleanup and disposal action may pose an unreasonable risk of injury to health or the environment due to the change in use. EPA may take similar action if the EPA does not receive requested information needed from Yale to make a determination regarding potential risk.

18. Any departure from the conditions of this Approval without prior, written authorization from the EPA may result in the revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.

19. Any misrepresentation or omission of any material fact in the Notification or in any future records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.

20. Approval for these activities may be revoked, modified or otherwise altered: if EPA finds a violation of the conditions of this Approval or of 40 CFR Part 761, including EPA's PCB Spill Cleanup Policy, or other applicable rules and regulations; if EPA finds that these activities present an unreasonable risk to public health or the environment; if EPA finds that there is migration of PCBs from the Site; or if EPA finds that changes are necessary to comply with new rules, standards, or guidance for such approvals. Yale may apply for appropriate modifications in the event new rules, standards, or guidance comes into effect.

RECORDKEEPING AND REPORTING CONDITIONS

21. Yale shall prepare and maintain all records and documents required by 40 CFR Part 761, including but not limited to the records required under Subparts J and K. A written record of the decontamination and disposal and the analytical sampling shall be established and maintained by Yale in one centralized location, until such time as EPA approves in writing a request for an alternative disposition of such records. All records shall be made available for inspection to authorized representatives of EPA.

22. As required under Condition 15 of this Approval, Yale shall submit the results of the long-term monitoring and maintenance activities to EPA as specified in the final MMIP to be approved by EPA.

23. Yale shall submit a final report to the EPA within 90 days of completion of the activities authorized under this Approval. At a minimum, this final report shall include: a short narrative of the project activities; characterization and confirmation sampling analytical results, including indoor air and surface wipe sampling; copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCB waste disposed of and the size of the PCB cleanup area(s); copies of manifests and bills of lading; and copies of certificates of disposal or similar certifications issued by the disposer. The Report shall also include a copy of the recorded deed restriction and a certification signed by a Yale official verifying that the authorized activities have been implemented in accordance with this Approval and the Notification.

24. Required submittals shall be mailed to:

    Kimberly N. Tisa, PCB Coordinator
    United States Environmental Protection Agency
    5 Post Office Square, Suite 100 – (OSRR07-2)
    Boston, Massachusetts 02109-3912
    Telephone: (617) 918-1527
    Facsimile: (617) 918-0527

25. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self-disclosure or penalty policies.

****

END OF ATTACHMENT 1

APPENDIX B: DUST MONITORING LOGS

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 65-70 (deg F) Wind: 0-10 (mph)

Weather: Sunny clear sky

Field Tech: Kimberly Rinard

Signature: KR

Date: 9/26/2011

Meter (Make): Thermo Electro-

Meter (Model): PRT PDR-1000 AN

Serial Number: 6633

Last Calibrated: 9/26/2011

Notes

Loc #	Current Site Activity Description
	Assembly of tent enclosure @ Rm 313
	No active removal
	No lab personnel in room
	(1255) Loc 1,2,3- Worker w/in enclosure @ 313
	(1307) Loc 2- Worker cutting window frame/caulk w/ elec knife
	(1326) Rm 306- No work in area, 4 people actively studying w/in research area.

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
BKGD	0817	.000	
1	0819	.014	
2	0829	.024	
3	0849	.031	
1 ~~4~~	1019	.028	
2 ~~5~~	1015	.019	
3 ~~6~~	1006	.032	
BK ~~7~~	1252	.018	
1 ~~8~~	1255	.024	
2 ~~9~~	1307	.040	
3 ~~10~~	1320	.037	
~~11~~	1322	.064	Rm 312
	1324	.045	Rm 310
	1326	.055	Rm 306

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 1 of 2 for 9/26/2011 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 65-70 (deg F) Wind: 0-10 (mph)

Weather: Sunny, clear sky

Field Tech: Kimberly Rinard

Signature: [illegible]

Date: 9/26/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 9/26/11

Notes

Loc #	Current Site Activity Description
2	(1400) Qty 2 workers removing residue using wire brush w/in enclosure
3	(1410) Qty 3 lab techs working @ microscopes Qty 1 construction worker transporting materials thru lab area
	* Note Rm 312/312B may have high background readings due to nature of work performed w/in lab. (milling/grinding etc)

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
BKGD	1355	.048	
1	1357	.027	
2	1400	.057	
3	1410	.063	
	1415	.037	Rm 312B
	1417	.045	Rm 310
	1419	.043	Rm 306

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 2 of 2 for 9/26/2011 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Kimberly Renard

Signature: [illegible]

Date: 10/6/11

Meter (Make): Thermo Electron

Meter (Model): PDR - 1000 AN

Serial Number: 6633

Last Calibrated: 10/6/11 @ 0740

Temperature: 55°F (deg F) Wind: 0-10 (mph)

Weather: clear sky, surfaces are wet/damp

Notes

Loc #	Current Site Activity Description
10	Worker w/in enclosure cleaning joint
Rm 207	Placed dust meter @ desk (TWA @ .167 0856)
	Identified hole in poly enclosure (0857)
	& Worker asked to put duct tape over
	hole (0857) Worker repairs hole - see
	photo on phone.
	@ 0830 asked Vussell to have worker spray
	all surfaces w/ water
	Vussell delivered spray bottle/water
	to worker
	TWA @ .134 @ 0908
	TWA @ .120 @ 0918
	TWA @ .111 @ 0923
	TWA @ .104 @ 0928

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	0816	.058	TOP OF STEP
1	0843	.055	313 BASE
2	0839	.053	313 TOP
3	LOCKED	LOCKED	RM 313
4	0840	.052	312B TOP
5	0844	.057	~~312B~~ 306 BASE
6	0838	.058	306 TOP
7	0845	.073	344 BASE
8	0851	.056	344 TOP
9	0847	.054	252 TOP
10	0818	.055	208A TOP
11	0853	.071	RM 208A (LOCKED READING IN HALL)
	0814	.150	Rm 207

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 3 for 10/6/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 55°F (deg F) Wind: 0-10 (mph)

Weather: Clear sky, sunny, slight breeze

Field Tech: Kimberly Rinnard

Signature: [illegible]

Date: 10/6/11

Meter (Make): Thermo Electron

Meter (Model): PDR - 1000 AN

Serial Number: 6633

Last Calibrated: 10/6/11 @ 0740

Notes

Loc #	Current Site Activity Description
10	Worker resumed work w/in canopy
8	Painter (Spin masking windows for Fiberted rep)

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
BKGD	0955	.042	
1	0959	.058	
2	1013	.059	
3	1021	.057	
4	1014	.065	
5	0958	.053	
6	~~1010~~ 1012	~~.075~~ .060	.060 @ 1012
7	0957	.054	
8	1004	.063	
9	1006	.063	
10	1010	.075	
11	1023	.057	Room locked (@ door)
	1024	.059	Room 207

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 2 of 3 for 10/6/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 60-65 (deg F) Wind: 0-10 (mph)

Weather: Sunny, clear sky

Field Tech: Kimberly Rinaldi

Signature: [illegible]

Date: 10/6/2011

Meter (Make): Thermo Electro-

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/6/2011 @ 0740

Notes

Loc #	Current Site Activity Description
10	WORKER (QTY 1) REMOVING CAULKING
	* 1200- DEAD 9-VOLT-
	1215- RECALIBRATED METER

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
BKGD	1230	.001	
1	1232	.006	
2	1244	.001	
3	1151	.064	
4	1243	.018	
5	1233	.004	
6	1244	.002	
7	1234	.010	
8	1237	.005	
9	1236	.001	
10	1155	.060	
11	1153	.062	LOCKED (IN HALLWAY)
	1154	.062	Rm 287

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 3 of 3 for 10/6/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Kimberly Rimmer

Signature: [illegible]

Date: 10/11/11, 10/12/11, 10/13/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/11/11 0815

Temperature: 60°F (deg F) Wind: 0-10 (mph)

Weather: Clear sky, (10/11/11)
Cloudy. (10/12/11) Raining (10/13/11)

Notes

Loc #	Current Site Activity Description
	QTY 2 PAINTERS - APPLYING SIKA62 2ND/3rd FLOOR 10/13/11
	Qty 2 - CARPENTERS - REMOVING "BOXES" FROM CLEAN AREAS AND CONSTRUCTING OTHERS TO PREP FOR ABATEMENT {10/14/11} ON

	Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
10/11/11	NORTH FACE	0830		NO DUST GENERATING ACTIVITY ON SITE
10/12/11	NORTH FACE	0830		↓
10/13/11	NORTH FACE	0830		↓
	SITE	WORK SUMMARY IN OTHER SIDE		TABLE ON

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 1 of 1 for 10/11 - 10/13 2011 (date)

229 YRA - GT Photos - 0952 @ meter

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 60°F (deg F) Wind: 0-10 (mph)

Weather: Rain - Heavy rain overnight, light rain during commute

Field Tech: Kimberly Rinard

Signature: KRinard

Date: 10/14/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/4/11 0745

Notes

Loc #	Current Site Activity Description
12	WORKER HAMMERING/SAWING WINDOW FRAME
13	NO WORK IN ENCLOSURE
*	SIFCO (ROOM 313 LAB) APPLYING FSI ON INTERIOR WALL (FIRST COAT HE APPLIED - PER WILLY) WILLY - "WALL WAS PRETTY DIRTY

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
* NO READINGS FROM NORTH FACE - NO WORK GOING ON TODAY ON NORTH FACE			
BEGIN W/ LOCATION 12 (NEW) FOR EAST FACE			
BLEED (E)			@ DINOSAUR STATUE
12	0824	.012	RM 316 - OFFICE
13	0827	.000	RM 319 - OFFICE
14	LOCKED	N/A	RM 315 - OFFICE
15	LOCKED	N/A	RM 314 - OFFICE
16	0839	.000	AT SCAFFOLD TRAP DOOR - 1st Floor window
17	0837	.000	LH - ↓ SAME COMMENT
18	0835	.000	RH - AT LEVEL OF 1st FLOOR WINDOW
19	0844	.000	TRAP DOOR/BETWEEN 2+3
20	0842	.000	LH - (BETWEEN 2+3)
21	0845	.000	RH ↓

0844

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 2 for 10/14/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 60 (deg F) Wind: 0-10 (mph)

Weather: Sprinkling

Field Tech: Kim Rinaldi

Signature: [illegible]

Date: 10/14/11

Meter (Make): Thermo Electron

Meter (Model):

Serial Number:

Last Calibrated:

Notes

Loc #	Current Site Activity Description
13	(1) WORKER IN CANOPY WORKING KAR-DUCT TAPED JOINTS OF BOX IN INTERIOR SPACES
13 -	DUST LEVEL @ .008 OUT IN HALLWAY
13 -	METER RETURNED TO ROOM AND LEFT RUN CONTINUOUSLY FOR DURATION OF 2 HRS TO NEXT SAMPLING
	(1158) TWA @ .378 NO ACTIVITY

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
BKGD			
12 ~~1~~	1101	0.000	
13 ~~2~~	1045	0.287 (1)	Rm 319
14 3	LOCKED		
15 ~~4~~	LOCKED		
16 ~~5~~	1125	.000	
17 ~~6~~	1128	.000	
18 ~~7~~	1129	.000	
19 ~~8~~	1132	.000	
20 ~~9~~	1131	.000	
21 ~~10~~	1132	.000	
~~11~~			

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 2 of 2 for 10/14/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 55° (deg F) Wind: 0-10 (mph)

Weather: Overcast ~~and~~ and damp

Field Tech: Kimberly Rinard

Signature: KR

Date: 10/17/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/17/11 0800

Notes

Loc #	Current Site Activity Description
	(0929) "OPEN" WINDOW - 1 OCCUPANT IN OFFICE
	(0931) @ 0321A - NO WORK IN ENCLOSURE
	(0938) @ 390 - WORKER IN ENCLOSURE
	SPRAYING WATER, LIGHT HAMMERING
	FRAME DISASSEMBLY
	WATER APPLIED W/ GRAPO TRADEWORKS 150
	(0946) QTY 2 IRON WORKERS ASSEMBLING WINDOW
	(0948) LABORER ON SCAFFOLD HANDLING MATERIAL
	BKGD-E @ DINOSAUR .003 + .100 = .103

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
	0929	.012	Rm 319
	0931	.016	SCAFFOLD @ 321A
	0938	.014	SCAFFOLD @ 390
	0942	.012	Rm 316
	0945	.019	Rm 315
	0946	.011	Rm 313
	0948	.009	Rm312B SCAFFOLD

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 1 of 3 for 10/17/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 65° (deg F) Wind: 0-10 (mph)

Weather: Clear sky

Field Tech: Kim Rinard

Signature: [illegible]

Date: 10/17/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/17/11 0800

Notes

Loc #	Current Site Activity Description
	(1133) Rm 315 has no windows, no visible air ventilation
	(1137) worker in enclosure removing window
	BKGD-E @ DINOSAUR .006 + .100 = .106

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
	1131	.008	Rm 319
	1137	.019	SCAFFOLD (321A)
	1138	.025	SCAFFOLD (390)
	1132	.008	Rm 316
	1133	.028	Rm 315
	1134	.006	Rm 313
	1141	.005	Rm 312B SCAFFOLD
BKGD-E			
	END		

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 3 for 10/17/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 70° (deg F) Wind: 0-10 (mph)

Weather: Clear Sky

Field Tech: Kim Rinard

Signature: KRL

Date: 10/17/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/17/11 0900

Notes

Loc #	Current Site Activity Description
	(1328) 321A - Worker removing caulking, spraying water
	* ENTIRE EAST FACE - LANDSCAPERS - LEAF BLOWING @ BASE OF SCAFFOLDING
	(1339) Cherry Hill Glass installing window in 312
	CHG - leaving @ 1400 - 1415
NOTE	Room 321, Prepped, carpet masked, box/enclosure in place, workers accessing scaffolding thru poly in enclosure
	BKGD-E @ Dinosaur ~~.004~~ .040 + .10 = .140

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
	1327	.042	Rm 319
	1328	.025	Scaffold @ 321A
	1332	.013	Scaffold @ 39B
	1333	.015	Rm 316
	(*) 1337	(*) .009	Rm 315 (*) (Hallway)
	1338	.010	Rm 313
	NO ACCESS		Rm 312B Scaffold
	1339	.009	Rm 312
	1344	.011	Rm 321D

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 3 of 3 for 10/17/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 60°F (deg F) Wind: 0-10 (mph)

Weather: Overcast and cleaning

Field Tech: Kim Rinard

Signature: [signature]

Date: 10/18/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/18/11 0845

Notes

Loc #	Current Site Activity Description
	Workers in canopy @ Rm 321A.
	320 open window (also 319, 315, 314)
	Rm 321D TWA 0904 - 0936 @ .010
	Rm 321D TWA 0904 - 1002 @ .011
	NOTE: READING @ Rm 315 TAKEN IN
	HALLWAY AT DOOR. DOORS FOR
	315/316 SIDE BY SIDE, BOTH LOCKED
	NO READING TAKEN FOR 315
	BKGD-E @ DINOSAUR = .006 + .100 = .106

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
	0858	.025	Rm 319
	0859	.020	Scaffold @ 321A
	0900	.025	Scaffolde 390
	0901	.027	Rm 316 (Hallway)
			Rm 315 (from sample area)
	0902	.016	Rm 313
	0904	.028	Rm 320
			AIR METER IN 321D
			left running until next
			round
* DUST METER LEFT RUNNING CONTINUOUSLY IN Rm 321D			
			NO WORK ON 2ND FLOOR

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 3 for 10/18/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Kim Rinard

Signature: [illegible]

Date: 10/18/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/18/11 ~~0800~~ 0845

Temperature: 75°F (deg F) Wind: 0-10 (mph)

Weather: Clear skies

Notes

Loc #	Current Site Activity Description
	(1115) TWA 0904-1115 Rm 321D @ .011
	workers removing residual caulking
	(1120) Worker below prepping enclosure
	(1122) Researcher in office
	(1128) 216 functioning part of window removed
	(1129) Worker in enclosure, sealing it
	(1130) Window (functioning part) removed, enclosure
	built, office open to outdoors
	Worker in enclosure @ Rm 214
	(1133) Worker hammering on outside of building
	BKGD-E @ DINOSAUR .000 + .100 = .100

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
	1117	.008	Rm 319
	1119	.022	Scaffold Rm 321A
	1120	.060	Scaffold Rm 390
	1122	.011	Rm 316 (in room)
	1123	.010	Rm 315 (@ doorway)
	1124	.006	Rm 313
	1125	.011	Rm 320
	1128	.019	Rm 216
	1129	.007	Rm 214
	1130	.025	Rm 211
	1133	.008	Rm 210

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 2 of 3 for 10/18/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 75°F (deg F) Wind: Ø-10 (mph)

Weather: Clear skies

Field Tech: Kim Rinard

Signature: KRinard

Date: 10/18/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/18/11 0845

Notes

Loc #	Current Site Activity Description
	(1305) Worker transporting bagged PCB waste window/enclosure open
	(1306) Worker on scaffold in enclosure sealing it Door off Masonite box open/poly intact
	(1308) ~~Same~~ Same as 1306 comment
	(1310) Worker in enclosure removing window and caulking
	(*) Dust meter left running continuously until next round of readings
	BKGD-E @ DINOSAUR .003 + .100 = .103

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
	1305	.027	Rm 216
	1306	.014	Rm 214
	1308	.013	Rm 211
	1310	.013	Rm 210 (*)
			NO WORK ON 3rd FLOOR

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 3 of 3 for 10/18/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Kim Rimmd

Signature: [illegible]

Date: 10/20/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/20/11 0815 (NEW BATTERY INSTALLED)

Temperature: 60°F (deg F) Wind: 0-10 (mph)

Weather: sprinkling, area ~~wheat~~ wet from rain night before

Notes

Loc #	Current Site Activity Description
	(*) Indicate where active work is taking place
	Rm 216 - worker w/in enclosure @ office window
	Rm 214 - enclosure/window open for access
	Rm 211 - enclosure/window open for access
	↓ TWA dropping
	Rm 210 - enclosure/window open for access
	painter applying Sikaflex to window
	0847 - Dust meter returned to Rm 216
	to run continuously until next readings
	1031 - TWA READING (0847-1030) @ .041
	BKGD-E @ 0835, .000 (+.100) = .100

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
	0838	.004	Rm 216
	0840	.052	Rm 214
	0842	.022	Rm 211
	0844	.031	Rm 210
	0846	.055	On scaffolding @ canopy (*)
	0835	.000	BKGD (@ DINOSAUR)

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 1 of 3 for 10/20/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Kimberly Rinard

Signature: [signature]

Date: 10/20/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/20/11 0815

Temperature: 65-70 (deg F) Wind: 10-20 (mph) S

Weather: partially cloudy, and clearing

Notes

Loc #	Current Site Activity Description
	(1032) Rm 216 - spikes of dust level noted
	workers w/in canopy, outside room
	(1034) Rm 214 - painter in rough opening
	applying Sika 62 to bare surface
	window/enclosure open
	(1036) Rm 211 - window/enclosure open
	(1037) Rm 210 - window closed w/plywood
	AAIS - NOW WORKING ON FIRST FLOOR
	EAST FACE, BENEATH 209
	1045 .024 @ base of EAST SCAFFOLD
	w/ landscapers across the street
	@ DINOSAUR
	1050 BKGD-E .018 + .100 = .118

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
	1032	.042	Rm 216
	1034	.050	Rm 214
	1036	.027	Rm 211
	1037	.021	Rm 210
	1039	.033	LH SCAFFOLD 2ND FLR
	1041	.038	CTR SCAFFOLD 2ND FLR
	1043	.026	RH SCAFFOLD 2ND FLR

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 2 of 3 for 10/20/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 70°F (deg F) Wind: 0-10 (mph)

Weather: clear sky

Field Tech: Kim Rinard

Signature: KR

Date: 10/20/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/20/11 0815

Notes

Loc #	Current Site Activity Description
	(1255) Rm 216 - Qty 2 workers on scaffold disassembling enclosure. Qty 2 laborers in room
	(1258) Rm 214 - AAIS (Qty 1) transferring tools ~~waste~~ KAR 10/20/11 to hallway
	(1302) Empty - Window/Enclosure open
	@ DINOSAUR
	1247 - BKGD-E .007 + .100 = .107

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
	1255	.050	Rm 216
	1258	.011	Rm 214
	1300	.012	Rm 211
	1302	.022	Rm 210
	1306	.026	LH Scaffold - 2nd flr
	1307	.026	CTR ↓ ↓
	1308	.019	RH Scaffold - 2nd Flr

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 3 of 3 for 10/20/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: [ ] (deg F) Wind: [0 - 3] (mph) [ ]

Weather: Sunny, low wind, dry

Field Tech:

Signature:

Date: 10/21/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated:

Notes

Loc #	Current Site Activity Description
Rm 112	2 windows demolitioned
Rm 109	dust below alarm levels

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	@ 10:31	.020	Bottom Top Step
1	@ 10:40	.010	~~Bottom~~ Base 109
2	@ 10:43	.015	Top 109
3	@ 10:47	.009	~~Bottom~~ Base 112
4	@ 10:52	.009	Top 112
5	@ 10:59	.025	in Room 109
6	@ 11:08	.007	in Room 112

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 1 for 10/21/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Kimberly A. Rivers

Signature: 10/24/11 [illegible]

Date: 10/24/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/24/11 0830

Temperature: 60°F (deg F) Wind: 0-10 (mph)

Weather: slightly cloudy, foggy during commute

Notes

Loc #	Current Site Activity Description
	Rm 112 - Enclosure open, window removed
	Rm 111 Two laborers removing "box"
	Rm 110 - Empty
	Rm 109 - Empty
	* Coating in rough opening still wet
	Rm 102 - worker (APIS) in enclosure removing
	window, metal framing
	Dust meter placed in Rm 102 @ 0855 to
	maintain continuous readings until next round
	Rm 102 TWA .100 (0855 → 1055)
	worker in western window vacuuming
	center window - hammering
	eastern - no work in enclosure
	BKGD-E .013 + .100 = .113

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
	0841	.019	Rm 112 (EAST)
	0842	.026	Rm 111 ↓
	0844	.019	Rm 110 ↓
	0845	.021	Rm 109 (EAST)
	0849	.096	Rm 102 (NORTH)
*			END ROUND 1
			Rm 112 LE

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 1 of ____ for 10/24/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 65°F (deg F) Wind: 0-10 (mph)

Weather: slightly cloudy

Field Tech: Kimberly Rinard

Signature: [illegible]

Date: 10/24/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/24/11 0830

Notes

Loc #	Current Site Activity Description
	Rm 102 - Worker spraying water, western window center window - hammering
	(1109) Dust meter returned to Rm 102 where APIS is working for continuous metering until next round.
	Rm 102 TWA @ 1238 = .043 (1104→1238)

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
	1056	.031	Rm 112 (EAST)
	1057	.018	Rm 111 ↓
	1058	.018	Rm 110 ↓
	1059	.031	Rm 109 (EAST)
	1100	.068	Rm 102 (NORTH)
	1102	.042	BLGD-N (top of steps @ curb to parking lot)
	1104	.037	BLGD-E (@ dinosaur)

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 2 of ____ for 10/24/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 65°F (deg F) Wind: 5-10 (mph)

Weather: slight breeze, overcast

Field Tech: Kim Rinnard

Signature: [illegible]

Date: 10/24/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/24/11 0830

Notes

Loc #	Current Site Activity Description
	Rm 102 - worker in enclosure

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
	1241	.020	Rm 112
	1242	.019	Rm 111
	1243	.016	Rm 110
	1244	.021	Rm 109
	1245	.022	Rm 102
	1253	.025	BKGD-N (@ top of steps at exit to parking lot)
	1251	.033	BKGD-E (@ dinosaur)

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 3 of ____ for 10/24/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: [ ] (deg F) Wind: [ ] (mph) [ ]

Weather: _____

Field Tech: Mike Cloutier (Standard)

Signature:

Date: 10/25/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated:

Notes

Loc #	Current Site Activity Description

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	9:30	.083	Top of step
	9:34	.086	scafold 108
	9:39	.099	in Room 108
	9:38	.081	scafold 124
	9:51	.087	in Room 124
	9:43	.096	scafold 126
	9:49	.093	in Room 126

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 1 for 10/25/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Michael Cloutier

Signature: [illegible]

Date: 10/26/11

Meter (Make): Thermo Electro

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated:

Temperature: [ ] (deg F) Wind: [ ] (mph) [ ]

Weather:

Notes

Loc #	Current Site Activity Description
	No PCB Remediation
	Activities Done Today.
	Masons replacing Brick.
	Abatment cutting Brick for
	New window

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comr

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet _____ of _____ for _____

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Closser

Signature: [illegible]

Date: 10/27/11

Meter (Make): Thermo Electro

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated:

Temperature: [ ] (deg F) Wind: [ ] (mph) [ ]

Weather:

Notes

Loc #	Current Site Activity Description
	[illegible]

Loc #	Time (24Hr)	Dust level (mg/m³)	Comm
BKGD	1100	.102	Base level
1	11:11	.143	in Rm 337
2	11:14	.140	Scaffold 337
3	11:20	.109	Bottom scaffold 337
4	11:22	.100	Bottom scaffold 339
5	11:23	.101	Bottom scaffold 347
6	11:30	.120	in Rm 339
7	11:35	.110	Scaffold 3[illegible]
8	11:40	.117	in Rm 347
9	11:42	.126	Scaffold 347

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 2 for 10/27

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: [ ] (deg F) Wind: [ ] (mph) [ ]

Weather: _____

Field Tech: Mike Clouvier

Signature: [signature]

Date: 10/27/11

Meter (Make): Thermo Electro

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated:

Notes

Loc #	Current Site Activity Description

Loc #	Time (24Hr)	Dust level (mg/m³)	Comm
BKGD	1100	.102	Base level
1	1240	.120	in Rm 337
2	1246	.115	scaffold 337
3	1253	.117	Bottom scaffold 337
4	1256	.116	Bottom scaffold
5	1258	.122	Bottom scaffold 342
6	1307	.101	in Rm 339
7	1309	.109	scaffold 337
8	1311	.096	in Rm 342
9	1315	.115	scaffold 34

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 10/2

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: [ ] (deg F) Wind: [ ] (mph) [ ]

Weather: _____

Field Tech: Kim Rimrod

Signature: Kim

Date: 10/28/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated:

Notes

Loc #	Current Site Activity Description
	(0755) Worker in canopy removing residual caulking
	(0800) Worker removing glass from frame
	Rm 241 - box found open, poly intact door to box installed, all cracks taped shut
	Meter left in room until next round
	TWA @ 0815 = .125 mg/m³
	CONC @ .038 mg/m³

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
	0755	.087	Scaffold 342/343
	0800	.026	Scaffold 2nd flr @ 3rd window from NW corner
	0803	.015	Mason - patching cavity
	0806	0.974	Rm 241 - in room
	0809	0.012	BKGD - W

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 3 for 10/28/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Clouser

Signature: [illegible]

Date: 10/28/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/28/11 9:25

Temperature: 34 (deg F) Wind: (mph)

Weather: windy, cold

Notes

Loc #	Current Site Activity Description
1	Final cleaning
2	Glass Demo start cock grinding
3	Demo Complete, Clean up
4	Glass Demo, starting grinding

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
1	1010	.017	Scaffold 342/343
2	1018	.007	Scaffold 2nd Flr @ 3rd window from NW corner
3	1012	.007	Scaffold @ 337
4	1022	.054	Rm 241 (in room)
	1003	.006	Bkgd - W (across driveway on hill)

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 3 for 10/28/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 34 (deg F) Wind: (mph)

Weather: windy cold

Field Tech: Mike Clayter

Signature: [signature]

Date: 10/28/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/28/11 9:25

Notes

Loc #	Current Site Activity Description
1	abatement Finished, ~~Mason Patching~~
2	abatement Finished, ~~Cleaning~~ spraying
	with water
3	abatement Finished, Mason patching
4	abatement Finished, water clean up.

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
1	1304	.013	scaffold 342/343
2	1300	.007	scaffold 2nd floor
			3rd window NW corner
3	1310	.028	scaffold @ 337
4	1313	.030	Rm 241 (in room)
	1251	.002	Bkgd - W

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 3 of 3 for 10/28/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Cloutier

Signature: [signature]

Date: 10/31/11

Meter (Make): Thermo Electro

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/31/11 8:11 Am

Temperature: 20 (deg F) Wind: (mph)

Weather: Windy, below Freezing

Notes

Loc #	Current Site Activity Description
1	Full Demo, Glass + block grinding
2	No Demo started yet.
3	NW corner of 2nd Floor scaffold
4	NE corner of 2nd Floor scaffold
5	North Face Base of scaffold

Loc #	Time (24Hr)	Dust level (mg/m³)	Comm
1	0820	.101	in Rm 249
2	0823	.052	in Rm 237
3	0827	.075	NW scaffold
4	0830	.065	NE scaffold
5	0817	.049	Base scaffold
BK(GD)	0815	.048	Base level

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 2 for 10/31/11

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Cloutier

Signature: [illegible]

Date: 10/31/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 10/31/11 8:11 Am

Temperature: 35 ~ (deg F) Wind: (mph)

Weather: Windy, sunny with slight chill.

Notes

Loc #	Current Site Activity Description
1	Demo Completed
2	Window Pane Demo Block grinding
3.	NW scaffold 2nd Floor
4	NE scaffold 2nd Floor
5	Base of North Face scaffold

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
1	1252	.042	in Rm 249
2	1258	.024	in Rm 237
3	1302	.062	NW Scaffold
4	1306	.031	NE Scaffold
5	1310	.040	Base Scaffold
BKGD	1246	.029	Base level

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 2 of 2 for 10/31/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 30 (deg F) Wind: (mph)

Weather: windy, cold

Field Tech: Mike Clouter

Signature: [illegible]

Date: 11/1/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/1/11 9:25 Am

Notes

Loc #	Current Site Activity Description
1	Vaccuming, Demo complete
2	No Demo activities Started
3	Northwest Corner of 2nd Floor scaffold
4	North East corner of 2nd Floor scaffold
5	scaffold Base, North Face

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
1	0941	.045	in Room 238
2	0945	.026	in Room 247
3	0951	.043	NW corner
4	0955	.040	NE corner
5	0938	.046	Base
BKGD	0936	.041	Background level

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 1 of 2 for 11/1/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Cloutier

Signature: [signature]

Date: 11/1/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/1/11 9:25 Am

Temperature: 44 (deg F) Wind: (mph)

Weather: Windy, Cool

Notes

Loc #	Current Site Activity Description
1	Abatement Finished
2	Vaccuming, Final cutting and cleanup
3	NW Corner of 2nd Floor scaffold
4	NE corner of 2nd Floor scaffold
5	Base of North face scaffold

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
1	1250	.051	in Room 238
2	1252	.020	in Room 247
3	1246	.070	NW Corner
4	1244	.062	NE Corner
5	1242	.050	Base
BKGD	1240	.054	Background level

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 11/1/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 40 (deg F) Wind: (mph)

Weather: Very Windy

Field Tech: Mike Clouter

Signature: [illegible]

Date: 11/2/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/2/11 0955

Notes

Loc #	Current Site Activity Description
1	Demo complete
2	No Demo started
3	1st Floor scaffold
4	2nd Floor scaffold.

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
1	0954	.092	in Room 117 B
2	0958	.037	in Room 217
3	1000	.039	117 scaffold
4	1003	.030	217 scaffold
BKGD	1005	.050	Background level

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 1 of 2 for 11/2/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 46 (deg F) Wind: (mph)

Weather: very windy

Field Tech: Mike Cloutier

Signature: [signature]

Date: 11/2/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/2/11 0955

Notes

Loc #	Current Site Activity Description
1	Demo Complete
2	Demo, Caulk Grinding + Block
3	1st Floor scaffold
4	2nd Floor Scaffold

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
1	1259	.038	in Room 117B
2	1252	.029	in Room 217
3	1245	.049	117 scaffold
4	1248	.047	217 scaffold
BKGD	1241	.060	Back ground level

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 11/2/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: [ ] (deg F) Wind: [ ] (mph) [ ]

Weather:

Field Tech: Mike Cloutier

Signature:

Date: 11/3/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated:

Notes

Loc #	Current Site Activity Description
	No Dust Generating activities.
	Abatment preparations: Covers outside of window with plastic.

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 1 of 1 for 11/3/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: [ ] (deg F) Wind: [ ] (mph) [ ]

Weather: _____

Field Tech: Mike Cloutier

Signature: [signature]

Date: 11/4/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated:

Notes

Loc #	Current Site Activity Description
	No Dust Generating activities.
	AAI's Off site.

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 1 of 1 for 11/4/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 40 (deg F) Wind: (mph)

Weather: Cool, slight wind

Field Tech: Mike Cloutier

Signature:

Date: 11/7/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/7/11 0935

Notes

Loc #	Current Site Activity Description
	Back Ground level
1	Bottom of loading dock side staging
2	on 3rd Floor staging South
3	inside Room 377.
	Demo; glass and block Grind

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BkGD	0941	.062	Across From Staging
1	0943	.077	Bottom of staging
2	0946	.091	on staging
3	0955	.082	in Room 377

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 2 for 11/7/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: [ ] (deg F) Wind: [ ] (mph) [ ]

Weather:

Field Tech: Mike Clavier

Signature:

Date: 11/2/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/2/11 0935

Notes

Loc #	Current Site Activity Description
	Back Ground level
1	Bottom of south side staging
2	On top 3rd Floor staging
3	inside room 327
	Demo Complete

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BK(GD)	1240	.051	
1	1244	.060	
2	1248	.042	
3	1259	.063	

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 11/2/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Cloutier

Signature: Milford [illegible]

Date: 11/8/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 0805 11/8/11

Temperature: 40 (deg F) Wind: (mph)

Weather: No wind, cool, sunny

Notes

Loc #	Current Site Activity Description
BKGD	Back Ground level South side Across From scaffold
1	inside Room 336, Caulk Grinding
2	on scaffold 3rd Floor south side
3	Bottom scaffold south side
4	in Room 335, No Demo

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	0814	.067	~~Across~~ Across From scaffold
1	0808	.057	in Room 336
2	0811	.025	scaffold 3rd
3	0816	.049	Bottom scaffold s
4	0810	.038	Room 335

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 2 for 11/8/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Clougher

Signature: [signature]

Date: 11/8/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 0805 11/8/11

Temperature: 40 (deg F) Wind: (mph)

Weather: No wind Cool, sunny

Notes

Loc #	Current Site Activity Description
BKGD	Back Ground south side Across From scaffold
1	inside Room 336, Demo Finished
2	On scaffold 3rd Floor south side
3	Bottom scaffold south side
4	in Room 335, Glass Demo

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	1240	.069	Across From south side scaffold
1	1243	.082	in Room 336
2	1247	.076	scaffold 3rd
3	1255	.066	Bottom scaffold
4	1245	.099	Room 335

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 11/8/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 45 (deg F) Wind: (mph)

Weather: Foggy, very Damp

Field Tech: Mike Clougher

Signature: [signature]

Date: 11/9/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: - 6633

Last Calibrated: 0844 11/9/11

Notes

Loc #	Current Site Activity Description
BK(G)	Top of Stairs Near Entrance
1	Front entrance Stairs
2	Plexi Glass removal
3	Plexi Glass removal

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BK(G)	0850	.144	Across side walk
1	0851	.139	Bottom Floor
2	0853	.086	in Room 203
3	0855	.069	in Room 201

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet _____ of _____ for _____(date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 45 (deg F) Wind: (mph)

Weather: Foggy, very Damp

Field Tech: Mike Clouter

Signature: [signature]

Date: 11/9/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 0844 11/9/11

Notes

Loc #	Current Site Activity Description
BKGD	Top of stairs Near Entrance
1	Front entrance stairs
2	Plexi Glass Removal / Final Clean
3	Plexi Glass Removal / Final Clean

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	1242	.067	Across side walk
1	1243	.069	Bottom floor
2	1245	.060	in Room 203
3	1250	.058	in Room 201

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 11/9/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 50 (deg F) Wind: (mph)

Weather: Cool, Clear skies, low breeze

Field Tech: Mike Cloutier

Signature:

Date: 11/10/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 0803 11/10/11

Notes

Loc #	Current Site Activity Description
1	No Demo removal of Plex glass
2	Plex Glass removal + Demo Not started
3	Plex Glass removal + Demo Not started
4	Plex Glass removal + Demo Not started
5	Plex Glass removal + Demo Not started
BKGD	Across From main lobby Top of stairs

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
1	0808	.021	Bottom ~~[illegible]~~ curtain wall
2	0811	.015	in Room 304
3	0812	.003	in Room 303
4	0813	.004	in Room 302
5	0815	.022	in Room 301
BKGD	0806	.018	Back ground level

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 2 for 11/10/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Cloutier

Signature: [illegible]

Date: 11/10/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 08 03 11/10/11

Temperature: 50 (deg F) Wind: (mph)

Weather: Cool, Raining

Notes

Loc #	Current Site Activity Description
1	Block Grind + Glass Demo
2	Block Grind + Glass Demo
3	Block Grind + Glass Demo
4	Block Grind + Glass Demo
5	Block Grind + Glass Demo
BKGD	Top steps out of Front lobby exit

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
1	1300	.001	Bottom curtain wall
2	1302	.003	in Room 304
3	1304	.003	in Room 303
4	1308	.008	in Room 302
5	1309	.004	in Room 301
BKGD	1257	.002	Back Ground level

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 11/10/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Clavier

Signature: [signature]

Date: 11/11/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 0919 11/11/11

Temperature: 45~ (deg F) Wind: (mph)

Weather: Cool, Cloudy very windy

Notes

Loc #	Current Site Activity Description
BK GD	Across From bottom of scaffold
1	~~[illegible]~~ window removed, caulk chipping.
2	No Demo
3	West side scaffold

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	0922	.045	Back ground level
1	0927	.023	in Room 231
2	0930	.034	in Room 230
3	0924	.040	Bottom of scaffold

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 2 for 11/11/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client: Yale University

Project Name: Kline Geology Laboratory

Temperature: 45 (deg F) Wind: (mph)

Weather: Windy

Field Tech: Mike Clavier

Signature: [illegible]

Date: 11/11/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/11/11 0919

Notes

Loc#	Current Site Activity Description
Bk(gd)	Across from west side scaffold
1	Block grinding + cleanup
2	Block grinding + cleanup
3	west side scaffold

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
Bk(gd)	1300	.031	Back Ground level
1	1309	.025	in Room 231
2	1312	.021	in Room 230
3	1301	.040	Bottom of scaffold

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet _____ of _____ for _____(date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 53 (deg F) Wind: (mph)

Weather: Clear skies, light wind

Field Tech: Mike Cloutier

Signature: [signature]

Date: 11/14/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/14/11 0940

Notes

Loc#	Current Site Activity Description
BKGD	Across from south side scaffold
1	Demo started on 2 rooms 227, 235
2	No Demo started
3	Caulk scraping
4	Demo Finished
3+	Tiny hole where cords enter box
	Taped and readings lowered to
	low teens.

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	0944	.009	south side scaffold
1	0945	.005	2nd floor scaffold
2	0946	.001	in Room 220
3	0947	.049	in Room 227
4	0949	.013	in Room 235

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 2 for 11/14/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 53 (deg F) Wind: (mph)

Weather: light wind, Clear skies

Field Tech: Mike Clouter

Signature: [signature]

Date: 11/14/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/14/11 0940.

Notes

Loc#	Current Site Activity Description
BK(G)	Across from south side scaffold
1	1 Demo left to complete
2	Block Grinding
3	Demo Finished
4	Demo Finished

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BK(G)	1245	.009	south side scaffold
1	1249	.017	2nd floor scaffold
2	1251	.012	in Room 220
3	1253	.007	in Room 227
4	1254	.025	in Room 235

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 11/14/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 64 (deg F) Wind: (mph)

Weather: Cloudy

Field Tech: Mike Clouser

Signature: [signature]

Date: 11/15/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/15/11 0927

Notes

Loc#	Current Site Activity Description
BKGD	Across from south side scaffold
1	Demo Finished / caulk scrap / clean up
2	Glass Demo / cutout window
3	Bottom south side scaffold

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	0943	.015	Across SS.S
1	0947	.018	in Room 122
2	0949	.012	in Room 117A
3	0955	.009	Bottom of scaffold

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 2 for 11/15/11 (date)

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 64 (deg F) Wind: (mph)

Weather: Cloudy

Field Tech: Mike Clavier

Signature:

Date: 11/15/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/15/11 09.27

Notes

Loc#	Current Site Activity Description
BK(G)	Across from south side scaffold
1	Demo Finished
2	Clean up
3	Bottom south side scaffold

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BK(G)	1245	.031	Across SSS.
1	1249	.039	in Room 122
2	1250	.025	in Room 117A
3	1247	.017	Bottom scaffold

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 11/15/11 (date)

COPY

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 65 (deg F) Wind: (mph)

Weather: windy, Rain, mist

Field Tech: Mike Cloutier

Signature: [illegible]

Date: 11/16/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/16/11 0926

Notes

Loc #	Current Site Activity Description
1	Northern most window \ Glass Demo
2	Southern most window \ Glass Demo
3	on top of metal grate \ Glass Demo
BKGD	Peabody museum walkway

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
1	0929	.019	in 5 window hrs
2	0931	.012	in 5 window hrs
3	0935	.041	outside - containment
BKGD	0938	.030	walkway

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 1 for 11/16/11 (date)

Copy

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Clouter

Signature: [signature]

Date: 11/16/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/16/11 0926

Temperature: 65 (deg F) Wind: (mph)

Weather: windy rain, mist

Notes

Loc #	Current Site Activity Description
1	Northern most window / Grinding
2	southern most window / Grinding
3	On top of metal grate / Grinding
BKGD	Peabody museum walkway

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
1	1240	.089	in 5 window box
2	1242	.084	in 5 window box
3	1246	.042	outside containment
BKGD	1250	.035	walkway

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 2 of 2 for 11/16/11 (date)

COP4

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Field Tech: Mike Cloutier

Signature: [signature]

Date: 11/12/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/12/11 0702

Temperature: 40 (deg F) Wind: (mph)

Weather: Clearsky, minimal wind

Notes

Loc #	Current Site Activity Description
BKGD	Peabody museum walkway
1	southern most window / caulk Grinding
2	Northern most window / caulk Grinding
3	metal grate over abatement area

Loc #	Time (24Hr)	Dust level (mg/m³)	Comment
BKGD	0710	.041	Across 5 window rm
1	0714	.084	5 window rm
2	0717	.076	5 window rm
3	0712	.045	Top of 5 window rm

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m³

Sheet 1 of 3 for 11/12/11 (date)

COPY

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 40 (deg F) Wind: (mph)

Weather: Clear sky minimal wind

Field Tech: Mike Cloutier

Signature:

Date: 11/17/11

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/17/11 0702

Notes

Loc #	Current Site Activity Description
BKGD	Peabody museum walk way
1	Southern most window/caulk Grinding
2	Northern most window/caulk Grinding
3	Metal grate over abatement area

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
BKGD	1030	.034	Across 5 window room
1	1034	.065	5 window Room
2	1039	.073	5 window Room
3	1031	.040	Top of 5 window Rm

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 2 of 3 for 11/17/11 (date)

Copy

Air Monitoring Form for PCB Remediation Activities

Project Number : 224415

Client : Yale University

Project Name: Kline Geology Laboratory

Temperature: 40 (deg F) Wind: (mph)

Weather: Clear sky, minimal wind

Field Tech: Mike Courier

Signature: [signature]

Date:

Meter (Make): Thermo Electron

Meter (Model): PDR-1000 AN

Serial Number: 6633

Last Calibrated: 11/17/11 0702

Notes

Loc #	Current Site Activity Description
BKGD	Peabody museum walkway
1	southern most window ~~[illegible]~~ cleanup
2	Northern most window / clean up
3	metal grate over abatement area

Loc #	Time (24Hr)	Dust level (mg/m^3)	Comment
BKGD	1245	.045	Across 5 window Rm
1	1249	.051	5 window Rm
2	1252	.050	5 window Rm
3	1246	.051	Top of 5 window Rm.

IMPORTANT NOTE: Alarm level equals Background level + 0.100 mg/m^3

Sheet 3 of 3 for 11/17/11 (date)

APPENDIX C: ANALYTICAL LABORATORY REPORTS AND DATA VALIDATION SUMMARIES

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

September 8, 2011

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

Project Location: New Haven, CT
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11H1207

Enclosed are results of analyses for samples received by the laboratory on August 31, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 9/8/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11H1207

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

PROJECT LOCATION: New Haven, CT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-001	11H1207-01	Wipe		SW-846 8082A	
KGL-VWB-002	11H1207-02	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.

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

11H1207-01[KGL-VWC-001]

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

Michael A. Erickson
Laboratory Director

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

Project Location: New Haven, CT
Sample Description:
Work Order: 11H1207

Date Received: 8/31/2011

Field Sample #: KGL-VWC-001
Sampled: 8/30/2011 09:20

Sample ID: 11H1207-01

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	40	µg/Wipe	200		SW-846 8082A	8/31/11	9/2/11 14:01	JMB
Aroclor-1221 [1]	ND	40	µg/Wipe	200		SW-846 8082A	8/31/11	9/2/11 14:01	JMB
Aroclor-1232 [1]	ND	40	µg/Wipe	200		SW-846 8082A	8/31/11	9/2/11 14:01	JMB
Aroclor-1242 [1]	ND	40	µg/Wipe	200		SW-846 8082A	8/31/11	9/2/11 14:01	JMB
Aroclor-1248 [1]	ND	40	µg/Wipe	200		SW-846 8082A	8/31/11	9/2/11 14:01	JMB
Aroclor-1254 [2]	260	40	µg/Wipe	200		SW-846 8082A	8/31/11	9/2/11 14:01	JMB
Aroclor-1260 [1]	ND	40	µg/Wipe	200		SW-846 8082A	8/31/11	9/2/11 14:01	JMB
Aroclor-1262 [1]	ND	40	µg/Wipe	200		SW-846 8082A	8/31/11	9/2/11 14:01	JMB
Aroclor-1268 [1]	ND	40	µg/Wipe	200		SW-846 8082A	8/31/11	9/2/11 14:01	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	9/2/11 14:01
Decachlorobiphenyl [2]	*	30-150	S-01	9/2/11 14:01
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/2/11 14:01
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/2/11 14:01

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Project Location: New Haven, CT
Sample Description:
Work Order: 11H1207

Date Received: 8/31/2011

Field Sample #: KGL-VWB-002
Sampled: 8/30/2011 09:23

Sample ID: 11H1207-02

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	8/31/11	9/2/11 14:15	JMB
Aroclor-1221 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	8/31/11	9/2/11 14:15	JMB
Aroclor-1232 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	8/31/11	9/2/11 14:15	JMB
Aroclor-1242 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	8/31/11	9/2/11 14:15	JMB
Aroclor-1248 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	8/31/11	9/2/11 14:15	JMB
Aroclor-1254 [2]	5.5	1.0	µg/Wipe	5		SW-846 8082A	8/31/11	9/2/11 14:15	JMB
Aroclor-1260 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	8/31/11	9/2/11 14:15	JMB
Aroclor-1262 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	8/31/11	9/2/11 14:15	JMB
Aroclor-1268 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	8/31/11	9/2/11 14:15	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	79.8	30-150		9/2/11 14:15
Decachlorobiphenyl [2]	84.3	30-150		9/2/11 14:15
Tetrachloro-m-xylene [1]	94.3	30-150		9/2/11 14:15
Tetrachloro-m-xylene [2]	94.6	30-150		9/2/11 14:15

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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
11H1207-01 [KGL-VWC-001]	B036562	1.00	10.0	08/31/11
11H1207-02 [KGL-VWB-002]	B036562	1.00	10.0	08/31/11

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B036562 - SW-846 3540C										
Blank (B036562-BLK1)				Prepared: 08/31/11 Analyzed: 09/01/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.90*		µg/Wipe	2.00		95.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.96*		µg/Wipe	2.00		98.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.04*		µg/Wipe	2.00		102	30-150			
LCS (B036562-BS1)				Prepared: 08/31/11 Analyzed: 09/01/11						
Aroclor-1016	0.58	0.20	µg/Wipe	0.500		117	40-140			
Aroclor-1016 [2C]	0.61	0.20	µg/Wipe	0.500		123	40-140			
Aroclor-1260	0.52	0.20	µg/Wipe	0.500		105	40-140			
Aroclor-1260 [2C]	0.56	0.20	µg/Wipe	0.500		113	40-140			
Surrogate: Decachlorobiphenyl	*2.15*		µg/Wipe	2.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.95*		µg/Wipe	2.00		97.4	30-150			
Surrogate: Tetrachloro-m-xylene	*1.99*		µg/Wipe	2.00		99.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.08*		µg/Wipe	2.00		104	30-150			
LCS Dup (B036562-BSD1)				Prepared: 08/31/11 Analyzed: 09/01/11						
Aroclor-1016	0.57	0.20	µg/Wipe	0.500		114	40-140	2.52	30	
Aroclor-1016 [2C]	0.62	0.20	µg/Wipe	0.500		124	40-140	0.868	30	
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		106	40-140	1.25	30	
Aroclor-1260 [2C]	0.57	0.20	µg/Wipe	0.500		114	40-140	1.13	30	
Surrogate: Decachlorobiphenyl	*2.18*		µg/Wipe	2.00		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.97*		µg/Wipe	2.00		98.5	30-150			
Surrogate: Tetrachloro-m-xylene	*2.01*		µg/Wipe	2.00		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.10*		µg/Wipe	2.00		105	30-150			

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FLAG/QUALIFIER SUMMARY

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

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

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

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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

CHAIN OF CUSTODY RECORD

111207

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

Company Name: WOODARD & CURRAN
Address: 35 N.E. BUS. CTR SUITE 180
ANDOVER MA 01810
Attention: GEORGE FRANKLIN
Project Location: NEW HAVEN, CT
Sampled By: GEORGE FRANKLIN

Telephone: 978 557 8150
Project # 224415
Client PO#

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

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (3540C/8082)	# of Containers	** Preservation	***Container Code
-1	KGL-VWC-001	8/30/11	0920		X	O	U	X	1	O	G
-2	KGL-VWB-002	8/30/11	0923		X	O	U	X			

Dissolved Metals
O Field Filtered
O Lab to Filter

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

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

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

Comments: PCBs VIA USEPA 8082 w/ SOXHLET EXTRACTION (3540C)
R.L. ≤ 1.0 ug/wipe

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

Relinquished by: (signature)	Date/Time: 8/31/11 1105
Received by: (signature) Paul Nasset	Date/Time: 8/31/11 11:05
Relinquished by: (signature) Paul Nasset	Date/Time: 8/31/11 18:20
Received by: (signature)	Date/Time: 8/31/11 1820

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5
RUSH † STD
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: ≤ 1.0 ug/wipe

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene

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 + Curran RECEIVED BY: SD DATE: 8/31/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 4.1

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		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:

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

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

Doc# 277

Rev. 1 May 2011

11H1207-01 KGL-VWC-001

Analyte	Results		%RPD
Aroclor-1254 [2C]	260	260.556	0.214

11H1207-02 KGL-VWB-002

Analyte	Results		%RPD
Aroclor-1254 [2C]	5.5	5.4644	0.649
Surrogates			
Tetrachloro-m-xylene	1.89	1.89185	0.0978
Decachlorobiphenyl	1.60	1.6863	5.25

B036562-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.96	2.0439	4.19
Decachlorobiphenyl	2.10	1.90196	9.9

B036562-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	0.52	0.56459	8.22
Aroclor-1016	0.58	0.61368	5.64
Surrogates			
Tetrachloro-m-xylene	1.99	2.08213	4.52
Decachlorobiphenyl	2.15	1.94744	9.89

B036562-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1260	0.53	0.571	7.45
Aroclor-1016	0.57	0.61903	8.25
Surrogates			
Tetrachloro-m-xylene	2.01	2.09646	4.21
Decachlorobiphenyl	2.18	1.9709	10.1

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September 28, 2011

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

Project Location: KGL
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 11I0877

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

Sincerely,

Holly L. Folsom
Project Manager

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

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

REPORT DATE: 9/28/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11I0877

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

PROJECT LOCATION: KGL

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL 106-1W/Wipe	11I0877-01	Wipe		SW-846 8082A	
KGL 106-2W/Wipe	11I0877-02	Wipe		SW-846 8082A	
KGL 106-3W/Wipe	11I0877-03	Wipe		SW-846 8082A	
KGL 106-4W/Wipe	11I0877-04	Wipe		SW-846 8082A	
KGL 106-5W/BL	11I0877-05	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.

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

B037907-BLK1

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

Daren J. Damboragian
Laboratory Manager

con-test® ANALYTICAL LABORATORY

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

Project Location: KGL | Sample Description: | Work Order: 11I0877

Date Received: 9/23/2011

Field Sample #: KGL 106-1W/Wipe | Sampled: 9/23/2011 00:00

Sample ID: 11I0877-01

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	µg/Wipe	20		SW-846 8082A	9/23/11	9/27/11 6:26	PJG
Aroclor-1221 [1]	ND	4.0	µg/Wipe	20		SW-846 8082A	9/23/11	9/27/11 6:26	PJG
Aroclor-1232 [1]	ND	4.0	µg/Wipe	20		SW-846 8082A	9/23/11	9/27/11 6:26	PJG
Aroclor-1242 [1]	ND	4.0	µg/Wipe	20		SW-846 8082A	9/23/11	9/27/11 6:26	PJG
Aroclor-1248 [1]	ND	4.0	µg/Wipe	20		SW-846 8082A	9/23/11	9/27/11 6:26	PJG
Aroclor-1254 [1]	26	4.0	µg/Wipe	20		SW-846 8082A	9/23/11	9/27/11 6:26	PJG
Aroclor-1260 [1]	ND	4.0	µg/Wipe	20		SW-846 8082A	9/23/11	9/27/11 6:26	PJG
Aroclor-1262 [1]	ND	4.0	µg/Wipe	20		SW-846 8082A	9/23/11	9/27/11 6:26	PJG
Aroclor-1268 [1]	ND	4.0	µg/Wipe	20		SW-846 8082A	9/23/11	9/27/11 6:26	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	124	30-150		9/27/11 6:26
Decachlorobiphenyl [2]	127	30-150		9/27/11 6:26
Tetrachloro-m-xylene [1]	103	30-150		9/27/11 6:26
Tetrachloro-m-xylene [2]	120	30-150		9/27/11 6:26

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

Project Location: KGL | Sample Description: | Work Order: 11I0877

Date Received: 9/23/2011

Field Sample #: KGL 106-2W/Wipe | Sampled: 9/23/2011 00:00

Sample ID: 11I0877-02

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/27/11 6:01	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/27/11 6:01	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/27/11 6:01	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/27/11 6:01	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/27/11 6:01	PJG
Aroclor-1254 [1]	1.3	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/27/11 6:01	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/27/11 6:01	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/27/11 6:01	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/27/11 6:01	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		9/27/11 6:01
Decachlorobiphenyl [2]	96.6	30-150		9/27/11 6:01
Tetrachloro-m-xylene [1]	102	30-150		9/27/11 6:01
Tetrachloro-m-xylene [2]	106	30-150		9/27/11 6:01

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Project Location: KGL
Sample Description:
Work Order: 11I0877

Date Received: 9/23/2011

Field Sample #: KGL 106-3W/Wipe
Sampled: 9/23/2011 00:00

Sample ID: 11I0877-03

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 13:42	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 13:42	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 13:42	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 13:42	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 13:42	PJG
Aroclor-1254 [2]	0.30	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 13:42	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 13:42	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 13:42	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 13:42	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	89.1	30-150		9/26/11 13:42
Decachlorobiphenyl [2]	86.7	30-150		9/26/11 13:42
Tetrachloro-m-xylene [1]	84.9	30-150		9/26/11 13:42
Tetrachloro-m-xylene [2]	89.0	30-150		9/26/11 13:42

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Project Location: KGL
Sample Description:
Work Order: 11I0877

Date Received: 9/23/2011

Field Sample #: KGL 106-4W/Wipe
Sampled: 9/23/2011 00:00

Sample ID: 11I0877-04

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	9/23/11	9/27/11 6:13	PJG
Aroclor-1221 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	9/23/11	9/27/11 6:13	PJG
Aroclor-1232 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	9/23/11	9/27/11 6:13	PJG
Aroclor-1242 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	9/23/11	9/27/11 6:13	PJG
Aroclor-1248 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	9/23/11	9/27/11 6:13	PJG
Aroclor-1254 [1]	10	1.0	µg/Wipe	5		SW-846 8082A	9/23/11	9/27/11 6:13	PJG
Aroclor-1260 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	9/23/11	9/27/11 6:13	PJG
Aroclor-1262 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	9/23/11	9/27/11 6:13	PJG
Aroclor-1268 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	9/23/11	9/27/11 6:13	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	108	30-150		9/27/11 6:13
Decachlorobiphenyl [2]	108	30-150		9/27/11 6:13
Tetrachloro-m-xylene [1]	98.8	30-150		9/27/11 6:13
Tetrachloro-m-xylene [2]	109	30-150		9/27/11 6:13

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Project Location: KGL
Sample Description:
Work Order: 11I0877

Date Received: 9/23/2011

Field Sample #: KGL 106-5W/BL
Sampled: 9/23/2011 00:00

Sample ID: 11I0877-05

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 14:08	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 14:08	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 14:08	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 14:08	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 14:08	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 14:08	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 14:08	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 14:08	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	9/23/11	9/26/11 14:08	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	92.0	30-150		9/26/11 14:08
Decachlorobiphenyl [2]	89.6	30-150		9/26/11 14:08
Tetrachloro-m-xylene [1]	94.1	30-150		9/26/11 14:08
Tetrachloro-m-xylene [2]	98.5	30-150		9/26/11 14:08

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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
11I0877-01 [KGL 106-1W/Wipe]	B037907	1.00	10.0	09/23/11
11I0877-02 [KGL 106-2W/Wipe]	B037907	1.00	10.0	09/23/11
11I0877-03 [KGL 106-3W/Wipe]	B037907	1.00	10.0	09/23/11
11I0877-04 [KGL 106-4W/Wipe]	B037907	1.00	10.0	09/23/11
11I0877-05 [KGL 106-5W/BL]	B037907	1.00	10.0	09/23/11

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B037907 - SW-846 3540C										
Blank (B037907-BLK1)				Prepared: 09/23/11 Analyzed: 09/27/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*0.00*		µg/Wipe	2.00		*	30-150			S-20
Surrogate: Decachlorobiphenyl [2C]	*0.00*		µg/Wipe	2.00		*	30-150			S-20
Surrogate: Tetrachloro-m-xylene	*0.00*		µg/Wipe	2.00		*	30-150			S-20
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		µg/Wipe	2.00		*	30-150			S-20
LCS (B037907-BS1)				Prepared: 09/23/11 Analyzed: 09/26/11						
Aroclor-1016	0.53	0.20	µg/Wipe	0.500		106	40-140			
Aroclor-1016 [2C]	0.56	0.20	µg/Wipe	0.500		113	40-140			
Aroclor-1260	0.50	0.20	µg/Wipe	0.500		99.6	40-140			
Aroclor-1260 [2C]	0.53	0.20	µg/Wipe	0.500		105	40-140			
Surrogate: Decachlorobiphenyl	*1.87*		µg/Wipe	2.00		93.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.86*		µg/Wipe	2.00		93.0	30-150			
Surrogate: Tetrachloro-m-xylene	*1.91*		µg/Wipe	2.00		95.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.02*		µg/Wipe	2.00		101	30-150			
LCS Dup (B037907-BSD1)				Prepared: 09/23/11 Analyzed: 09/27/11						
Aroclor-1016	0.52	0.20	µg/Wipe	0.500		105	40-140	1.11	30	
Aroclor-1016 [2C]	0.46	0.20	µg/Wipe	0.500		91.2	40-140	21.2	30	
Aroclor-1260	0.51	0.20	µg/Wipe	0.500		102	40-140	2.72	30	
Aroclor-1260 [2C]	0.52	0.20	µg/Wipe	0.500		104	40-140	1.05	30	
Surrogate: Decachlorobiphenyl	*1.92*		µg/Wipe	2.00		96.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.88*		µg/Wipe	2.00		94.2	30-150			
Surrogate: Tetrachloro-m-xylene	*1.91*		µg/Wipe	2.00		95.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.99*		µg/Wipe	2.00		99.7	30-150			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
S-20	Surrogate recovery is outside of control limits. Sample media does not allow for re-extraction.

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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	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

con-test® ANALYTICAL LABORATORY
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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page_____of_____

1110877

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

Telephone: 203 410 5877
Project #
Client PO#

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

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB EPA 8082	SOXHLET 3540C EXTRACTION	# of Containers	** Preservation	***Container Code
01	KGL 106-1W/WIPE 100cm2		9/23/11			O	G	X				
02	KGL 106-2W/WIPE 100cm2							X				
03	KGL 106-3W WIPE 100cm2							X				
04	KGL 106-4W WIPE 100cm2							X				
05	KGL 106-5W/BL							X				

Comments:

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

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

Dissolved Metals
O Field Filtered
O Lab to Filter

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

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

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

Relinquished by: (signature)	Date/Time: 9/23/11 1640	
Received by: (signature)	Date/Time: 9/23/11 1640	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

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

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
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Sample Receipt Checklist

CLIENT NAME: Yale EHS **RECEIVED BY:** CFC **DATE:** 9/23/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 20-5°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

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

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May 2011

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

October 4, 2011

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

Project Location: Yale University - Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0031

Enclosed are results of analyses for samples received by the laboratory on October 3, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

REPORT DATE: 10/4/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0031

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

PROJECT LOCATION: Yale University - Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VW-018	11J0031-01	Wipe		SW-846 8082A	
KGL-VW-019	11J0031-02	Wipe		SW-846 8082A	
KGL-VW-020	11J0031-03	Wipe		SW-846 8082A	
KGL-VW-021	11J0031-04	Wipe		SW-846 8082A	
KGL-VW-023	11J0031-06	Wipe		SW-846 8082A	
KGL-VW-024	11J0031-07	Wipe		SW-846 8082A	
KGL-VW-025	11J0031-08	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.

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

11J0031-01[KGL-VW-018], 11J0031-02[KGL-VW-019], 11J0031-03[KGL-VW-020], 11J0031-06[KGL-VW-023], 11J0031-07[KGL-VW-024], 11J0031-08[KGL-VW-025]

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

Daren J. Damboragian
Laboratory Manager

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Project Location: Yale University - Kline Geology Sample Description: Work Order: 11J0031

Date Received: 10/3/2011

Field Sample #: KGL-VW-018 Sampled: 10/3/2011 08:45

Sample ID: 11J0031-01

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 11:03	PJG
Aroclor-1221 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 11:03	PJG
Aroclor-1232 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 11:03	PJG
Aroclor-1242 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 11:03	PJG
Aroclor-1248 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 11:03	PJG
Aroclor-1254 [1]	170	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 11:03	PJG
Aroclor-1260 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 11:03	PJG
Aroclor-1262 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 11:03	PJG
Aroclor-1268 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 11:03	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/4/11 11:03
Decachlorobiphenyl [2]	*	30-150	S-01	10/4/11 11:03
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/4/11 11:03
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/4/11 11:03

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Project Location: Yale University - Kline Geology Sample Description: Work Order: 11J0031

Date Received: 10/3/2011

Field Sample #: KGL-VW-019 Sampled: 10/3/2011 08:52

Sample ID: 11J0031-02

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	µg/Wipe	50		SW-846 8082A	10/3/11	10/4/11 11:16	PJG
Aroclor-1221 [1]	ND	10	µg/Wipe	50		SW-846 8082A	10/3/11	10/4/11 11:16	PJG
Aroclor-1232 [1]	ND	10	µg/Wipe	50		SW-846 8082A	10/3/11	10/4/11 11:16	PJG
Aroclor-1242 [1]	ND	10	µg/Wipe	50		SW-846 8082A	10/3/11	10/4/11 11:16	PJG
Aroclor-1248 [1]	ND	10	µg/Wipe	50		SW-846 8082A	10/3/11	10/4/11 11:16	PJG
Aroclor-1254 [1]	49	10	µg/Wipe	50		SW-846 8082A	10/3/11	10/4/11 11:16	PJG
Aroclor-1260 [1]	ND	10	µg/Wipe	50		SW-846 8082A	10/3/11	10/4/11 11:16	PJG
Aroclor-1262 [1]	ND	10	µg/Wipe	50		SW-846 8082A	10/3/11	10/4/11 11:16	PJG
Aroclor-1268 [1]	ND	10	µg/Wipe	50		SW-846 8082A	10/3/11	10/4/11 11:16	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/4/11 11:16
Decachlorobiphenyl [2]	*	30-150	S-01	10/4/11 11:16
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/4/11 11:16
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/4/11 11:16

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Project Location: Yale University - Kline Geology Sample Description: Work Order: 11J0031

Date Received: 10/3/2011

Field Sample #: KGL-VW-020 Sampled: 10/3/2011 08:58

Sample ID: 11J0031-03

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	µg/Wipe	100		SW-846 8082A	10/3/11	10/4/11 11:28	PJG
Aroclor-1221 [1]	ND	20	µg/Wipe	100		SW-846 8082A	10/3/11	10/4/11 11:28	PJG
Aroclor-1232 [1]	ND	20	µg/Wipe	100		SW-846 8082A	10/3/11	10/4/11 11:28	PJG
Aroclor-1242 [1]	ND	20	µg/Wipe	100		SW-846 8082A	10/3/11	10/4/11 11:28	PJG
Aroclor-1248 [1]	ND	20	µg/Wipe	100		SW-846 8082A	10/3/11	10/4/11 11:28	PJG
Aroclor-1254 [1]	90	20	µg/Wipe	100		SW-846 8082A	10/3/11	10/4/11 11:28	PJG
Aroclor-1260 [1]	ND	20	µg/Wipe	100		SW-846 8082A	10/3/11	10/4/11 11:28	PJG
Aroclor-1262 [1]	ND	20	µg/Wipe	100		SW-846 8082A	10/3/11	10/4/11 11:28	PJG
Aroclor-1268 [1]	ND	20	µg/Wipe	100		SW-846 8082A	10/3/11	10/4/11 11:28	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/4/11 11:28
Decachlorobiphenyl [2]	*	30-150	S-01	10/4/11 11:28
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/4/11 11:28
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/4/11 11:28

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Project Location: Yale University - Kline Geology Sample Description: Work Order: 11J0031

Date Received: 10/3/2011

Field Sample #: KGL-VW-021 Sampled: 10/3/2011 09:07

Sample ID: 11J0031-04

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	10/3/11	10/4/11 11:41	PJG
Aroclor-1221 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	10/3/11	10/4/11 11:41	PJG
Aroclor-1232 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	10/3/11	10/4/11 11:41	PJG
Aroclor-1242 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	10/3/11	10/4/11 11:41	PJG
Aroclor-1248 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	10/3/11	10/4/11 11:41	PJG
Aroclor-1254 [1]	14	2.0	µg/Wipe	10		SW-846 8082A	10/3/11	10/4/11 11:41	PJG
Aroclor-1260 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	10/3/11	10/4/11 11:41	PJG
Aroclor-1262 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	10/3/11	10/4/11 11:41	PJG
Aroclor-1268 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	10/3/11	10/4/11 11:41	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	121	30-150		10/4/11 11:41
Decachlorobiphenyl [2]	126	30-150		10/4/11 11:41
Tetrachloro-m-xylene [1]	114	30-150		10/4/11 11:41
Tetrachloro-m-xylene [2]	131	30-150		10/4/11 11:41

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Project Location: Yale University - Kline Geology Sample Description: Work Order: 11J0031

Date Received: 10/3/2011

Field Sample #: KGL-VW-023 Sampled: 10/3/2011 09:15

Sample ID: 11J0031-06

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:40	PJG
Aroclor-1221 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:40	PJG
Aroclor-1232 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:40	PJG
Aroclor-1242 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:40	PJG
Aroclor-1248 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:40	PJG
Aroclor-1254 [1]	230	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:40	PJG
Aroclor-1260 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:40	PJG
Aroclor-1262 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:40	PJG
Aroclor-1268 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:40	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/4/11 12:40
Decachlorobiphenyl [2]	*	30-150	S-01	10/4/11 12:40
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/4/11 12:40
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/4/11 12:40

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Project Location: Yale University - Kline Geology Sample Description: Work Order: 11J0031

Date Received: 10/3/2011

Field Sample #: KGL-VW-024 Sampled: 10/3/2011 09:19

Sample ID: 11J0031-07

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:07	PJG
Aroclor-1221 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:07	PJG
Aroclor-1232 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:07	PJG
Aroclor-1242 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:07	PJG
Aroclor-1248 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:07	PJG
Aroclor-1254 [1]	270	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:07	PJG
Aroclor-1260 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:07	PJG
Aroclor-1262 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:07	PJG
Aroclor-1268 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:07	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/4/11 12:07
Decachlorobiphenyl [2]	*	30-150	S-01	10/4/11 12:07
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/4/11 12:07
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/4/11 12:07

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Project Location: Yale University - Kline Geology Sample Description: Work Order: 11J0031

Date Received: 10/3/2011

Field Sample #: KGL-VW-025 Sampled: 10/3/2011 09:21

Sample ID: 11J0031-08

Sample Matrix: Wipe

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:19	PJG
Aroclor-1221 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:19	PJG
Aroclor-1232 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:19	PJG
Aroclor-1242 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:19	PJG
Aroclor-1248 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:19	PJG
Aroclor-1254 [1]	190	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:19	PJG
Aroclor-1260 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:19	PJG
Aroclor-1262 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:19	PJG
Aroclor-1268 [1]	ND	40	µg/Wipe	200		SW-846 8082A	10/3/11	10/4/11 12:19	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/4/11 12:19
Decachlorobiphenyl [2]	*	30-150	S-01	10/4/11 12:19
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/4/11 12:19
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/4/11 12:19

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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
11J0031-01 [KGL-VW-018]	B038394	1.00	10.0	10/03/11
11J0031-02 [KGL-VW-019]	B038394	1.00	10.0	10/03/11
11J0031-03 [KGL-VW-020]	B038394	1.00	10.0	10/03/11
11J0031-04 [KGL-VW-021]	B038394	1.00	10.0	10/03/11
11J0031-06 [KGL-VW-023]	B038394	1.00	10.0	10/03/11
11J0031-07 [KGL-VW-024]	B038394	1.00	10.0	10/03/11
11J0031-08 [KGL-VW-025]	B038394	1.00	10.0	10/03/11

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B038394 - SW-846 3540C										
Blank (B038394-BLK1)				Prepared: 10/03/11 Analyzed: 10/04/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.84*		µg/Wipe	2.00		91.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.82*		µg/Wipe	2.00		91.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.85*		µg/Wipe	2.00		92.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.98*		µg/Wipe	2.00		99.0	30-150			
LCS (B038394-BS1)				Prepared: 10/03/11 Analyzed: 10/04/11						
Aroclor-1016	0.50	0.20	µg/Wipe	0.500		99.5	40-140			
Aroclor-1016 [2C]	0.49	0.20	µg/Wipe	0.500		98.3	40-140			
Aroclor-1260	0.47	0.20	µg/Wipe	0.500		93.1	40-140			
Aroclor-1260 [2C]	0.48	0.20	µg/Wipe	0.500		96.9	40-140			
Surrogate: Decachlorobiphenyl	*1.90*		µg/Wipe	2.00		94.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.88*		µg/Wipe	2.00		94.0	30-150			
Surrogate: Tetrachloro-m-xylene	*1.79*		µg/Wipe	2.00		89.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.91*		µg/Wipe	2.00		95.7	30-150			
LCS Dup (B038394-BSD1)				Prepared: 10/03/11 Analyzed: 10/04/11						
Aroclor-1016	0.52	0.20	µg/Wipe	0.500		103	40-140	3.69	30	
Aroclor-1016 [2C]	0.52	0.20	µg/Wipe	0.500		103	40-140	4.76	30	
Aroclor-1260	0.46	0.20	µg/Wipe	0.500		92.3	40-140	0.882	30	
Aroclor-1260 [2C]	0.48	0.20	µg/Wipe	0.500		96.4	40-140	0.546	30	
Surrogate: Decachlorobiphenyl	*1.85*		µg/Wipe	2.00		92.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.83*		µg/Wipe	2.00		91.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.89*		µg/Wipe	2.00		94.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.02*		µg/Wipe	2.00		101	30-150			

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FLAG/QUALIFIER SUMMARY

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

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

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

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

RUSH TAT-24HR
11J0031

Company Name: WOODARD + CURRAN
Address: 35 NEW ENGLAND BUSINESS PARK
ANDOVER, MASS
Attention: G. Franklin, J Hamel
Project Location: YALE UNIV. KLINE GEO Lab
Sampled By: Kim Rinard (413)531-4455

Telephone:
Project # 224415
Client PO#

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

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PLAS EPA B082 by Soxhlet											
01	KGL-VW-019	10/3/11	0845			WI	U	✓											
02	KGL-VW-019	↓	0852			WI	U	✓											
03	KGL-VW-020	↓	0858			WI	U	✓											
04	KGL-VW-021	↓	0907			WI	U	✓											
⊛ 05	KGL-VW-022	↓	0912			WI	U	✓											
06	KGL-VW-023	↓	0915			WI	U	✓											
07	KGL-VW-024	↓	0919			WI	U	✓											
08	KGL-VW-025	10/3/11	0921			WI	U	✓											

⊛ Left VM for George F, unable to report sample -05 due to lab accident MEC 10/4/11

Comments: Email G Franklin@woodardcurran.com
J Hamel@ " " " "
RL = 1 microgram per wipe

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

# of Containers	1
** Preservation	O
***Container Code	G

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Relinquished by: (signature) Kim (K Rinard)	Date/Time: 10/3/11 0930
Received by: (signature) Paul Racicot	Date/Time: 10/3/11 0930
Relinquished by: (signature) Paul Racicot	Date/Time: 10/3/11 11:00
Received by: (signature) Paula Blat	Date/Time: 10/3/11 11:00

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

Detection Limit Requirements
Massachusetts:
Connecticut: RL = 1 ug / wipe
Other:

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

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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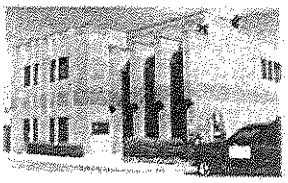

Sample Receipt Checklist

CLIENT NAME: Woodard + Curran RECEIVED BY: PB DATE: 10/3/11

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

2) Does the chain agree with the samples? (Yes) No
If not, explain:

3) Are all the samples in good condition? (Yes) No
If not, explain:

4) How were the samples received:
On Ice [X] Direct from Sampling [ ] Ambient [ ] In Cooler(s) [X]

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 4.5

5) Are there Dissolved samples for the lab to filter? Yes (No)
Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? (Yes) No
Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

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

Laboratory Comments:

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

Time and Date Frozen:

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

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

Doc# 277
Rev. 1 May 2011

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October 5, 2011

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

Project Location: Yale-Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11I1022

Enclosed are results of analyses for samples received by the laboratory on September 28, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

REPORT DATE: 10/5/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11I1022

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

PROJECT LOCATION: Yale-Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VBR-001	11I1022-01	Product/Solid		SW-846 8082A	
KGL-VBR-002	11I1022-02	Product/Solid		SW-846 8082A	
KGL-VBR-005	11I1022-05	Product/Solid		SW-846 8082A	
KGL-VBR-006	11I1022-06	Product/Solid		SW-846 8082A	
KGL-VBR-007	11I1022-07	Product/Solid		SW-846 8082A	
KGL-VBR-008	11I1022-08	Product/Solid		SW-846 8082A	
KGL-VBR-009	11I1022-09	Product/Solid		SW-846 8082A	
KGL-VBR-010	11I1022-10	Product/Solid		SW-846 8082A	
KGL-VBB-011	11I1022-11	Product/Solid		SW-846 8082A	
KGL-VBB-012	11I1022-12	Product/Solid		SW-846 8082A	
KGL-VBB-013	11I1022-13	Product/Solid		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

B038238-MS1, B038238-MSD1, B038239-MS1, B038239-MSD1

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

Analyte & Samples(s) Qualified:

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

11I1022-07[KGL-VBR-007], 11I1022-09[KGL-VBR-009], 11I1022-12[KGL-VBB-012]

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

Daren J. Damboragian
Laboratory Manager

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

Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBR-001
Sampled: 9/27/2011 10:50

Sample ID: 11I1022-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 11:51	PJG
Aroclor-1221 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 11:51	PJG
Aroclor-1232 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 11:51	PJG
Aroclor-1242 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 11:51	PJG
Aroclor-1248 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 11:51	PJG
Aroclor-1254 [1]	11	1.7	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 11:51	PJG
Aroclor-1260 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 11:51	PJG
Aroclor-1262 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 11:51	PJG
Aroclor-1268 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 11:51	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	92.2	30-150		10/1/11 11:51
Decachlorobiphenyl [2]	93.5	30-150		10/1/11 11:51
Tetrachloro-m-xylene [1]	91.0	30-150		10/1/11 11:51
Tetrachloro-m-xylene [2]	92.4	30-150		10/1/11 11:51

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Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBR-002
Sampled: 9/27/2011 11:00

Sample ID: 11I1022-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:05	PJG
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:05	PJG
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:05	PJG
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:05	PJG
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:05	PJG
Aroclor-1254 [1]	1.1	0.10	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:05	PJG
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:05	PJG
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:05	PJG
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:05	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	97.1	30-150		10/1/11 12:05
Decachlorobiphenyl [2]	91.2	30-150		10/1/11 12:05
Tetrachloro-m-xylene [1]	103	30-150		10/1/11 12:05
Tetrachloro-m-xylene [2]	92.8	30-150		10/1/11 12:05

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Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBR-005
Sampled: 9/27/2011 14:25

Sample ID: 11I1022-05

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 12:19	PJG
Aroclor-1221 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 12:19	PJG
Aroclor-1232 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 12:19	PJG
Aroclor-1242 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 12:19	PJG
Aroclor-1248 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 12:19	PJG
Aroclor-1254 [1]	17	1.9	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 12:19	PJG
Aroclor-1260 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 12:19	PJG
Aroclor-1262 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 12:19	PJG
Aroclor-1268 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	9/29/11	10/1/11 12:19	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.1	30-150		10/1/11 12:19
Decachlorobiphenyl [2]	96.1	30-150		10/1/11 12:19
Tetrachloro-m-xylene [1]	102	30-150		10/1/11 12:19
Tetrachloro-m-xylene [2]	101	30-150		10/1/11 12:19

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBR-006 | Sampled: 9/27/2011 14:35

Sample ID: 11I1022-06

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:33	PJG
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:33	PJG
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:33	PJG
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:33	PJG
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:33	PJG
Aroclor-1254 [1]	0.98	0.095	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:33	PJG
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:33	PJG
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:33	PJG
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	9/29/11	10/1/11 12:33	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	80.3	30-150		10/1/11 12:33
Decachlorobiphenyl [2]	75.5	30-150		10/1/11 12:33
Tetrachloro-m-xylene [1]	93.4	30-150		10/1/11 12:33
Tetrachloro-m-xylene [2]	84.9	30-150		10/1/11 12:33

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBR-007 | Sampled: 9/27/2011 15:30

Sample ID: 11I1022-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 12:47	PJG
Aroclor-1221 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 12:47	PJG
Aroclor-1232 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 12:47	PJG
Aroclor-1242 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 12:47	PJG
Aroclor-1248 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 12:47	PJG
Aroclor-1254 [1]	29	5.0	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 12:47	PJG
Aroclor-1260 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 12:47	PJG
Aroclor-1262 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 12:47	PJG
Aroclor-1268 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 12:47	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/1/11 12:47
Decachlorobiphenyl [2]	*	30-150	S-01	10/1/11 12:47
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/1/11 12:47
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/1/11 12:47

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Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBR-008
Sampled: 9/27/2011 15:40

Sample ID: 11I1022-08

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.17	mg/Kg	2		SW-846 8082A	9/29/11	10/1/11 13:02	PJG
Aroclor-1221 [1]	ND	0.17	mg/Kg	2		SW-846 8082A	9/29/11	10/1/11 13:02	PJG
Aroclor-1232 [1]	ND	0.17	mg/Kg	2		SW-846 8082A	9/29/11	10/1/11 13:02	PJG
Aroclor-1242 [1]	ND	0.17	mg/Kg	2		SW-846 8082A	9/29/11	10/1/11 13:02	PJG
Aroclor-1248 [1]	ND	0.17	mg/Kg	2		SW-846 8082A	9/29/11	10/1/11 13:02	PJG
Aroclor-1254 [1]	1.5	0.17	mg/Kg	2		SW-846 8082A	9/29/11	10/1/11 13:02	PJG
Aroclor-1260 [1]	ND	0.17	mg/Kg	2		SW-846 8082A	9/29/11	10/1/11 13:02	PJG
Aroclor-1262 [1]	ND	0.17	mg/Kg	2		SW-846 8082A	9/29/11	10/1/11 13:02	PJG
Aroclor-1268 [1]	ND	0.17	mg/Kg	2		SW-846 8082A	9/29/11	10/1/11 13:02	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.2	30-150		10/1/11 13:02
Decachlorobiphenyl [2]	87.1	30-150		10/1/11 13:02
Tetrachloro-m-xylene [1]	90.9	30-150		10/1/11 13:02
Tetrachloro-m-xylene [2]	89.1	30-150		10/1/11 13:02

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Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBR-009
Sampled: 9/28/2011 10:00

Sample ID: 11I1022-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	48	mg/Kg	500		SW-846 8082A	9/29/11	10/1/11 10:28	PJG
Aroclor-1221 [1]	ND	48	mg/Kg	500		SW-846 8082A	9/29/11	10/1/11 10:28	PJG
Aroclor-1232 [1]	ND	48	mg/Kg	500		SW-846 8082A	9/29/11	10/1/11 10:28	PJG
Aroclor-1242 [1]	ND	48	mg/Kg	500		SW-846 8082A	9/29/11	10/1/11 10:28	PJG
Aroclor-1248 [1]	ND	48	mg/Kg	500		SW-846 8082A	9/29/11	10/1/11 10:28	PJG
Aroclor-1254 [1]	280	48	mg/Kg	500		SW-846 8082A	9/29/11	10/1/11 10:28	PJG
Aroclor-1260 [1]	ND	48	mg/Kg	500		SW-846 8082A	9/29/11	10/1/11 10:28	PJG
Aroclor-1262 [1]	ND	48	mg/Kg	500		SW-846 8082A	9/29/11	10/1/11 10:28	PJG
Aroclor-1268 [1]	ND	48	mg/Kg	500		SW-846 8082A	9/29/11	10/1/11 10:28	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/1/11 10:28
Decachlorobiphenyl [2]	*	30-150	S-01	10/1/11 10:28
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/1/11 10:28
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/1/11 10:28

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBR-010 | Sampled: 9/28/2011 10:10

Sample ID: 11I1022-10

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:42	PJG
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:42	PJG
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:42	PJG
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:42	PJG
Aroclor-1248 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:42	PJG
Aroclor-1254 [2]	1.2	0.50	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:42	PJG
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:42	PJG
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:42	PJG
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:42	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.5	30-150		10/1/11 10:42
Decachlorobiphenyl [2]	89.7	30-150		10/1/11 10:42
Tetrachloro-m-xylene [1]	84.4	30-150		10/1/11 10:42
Tetrachloro-m-xylene [2]	89.2	30-150		10/1/11 10:42

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Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBB-011
Sampled: 9/28/2011 12:00

Sample ID: 11I1022-11

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.45	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:56	PJG
Aroclor-1221 [1]	ND	0.45	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:56	PJG
Aroclor-1232 [1]	ND	0.45	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:56	PJG
Aroclor-1242 [1]	ND	0.45	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:56	PJG
Aroclor-1248 [1]	ND	0.45	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:56	PJG
Aroclor-1254 [1]	3.4	0.45	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:56	PJG
Aroclor-1260 [1]	ND	0.45	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:56	PJG
Aroclor-1262 [1]	ND	0.45	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:56	PJG
Aroclor-1268 [1]	ND	0.45	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 10:56	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.0	30-150		10/1/11 10:56
Decachlorobiphenyl [2]	92.2	30-150		10/1/11 10:56
Tetrachloro-m-xylene [1]	92.1	30-150		10/1/11 10:56
Tetrachloro-m-xylene [2]	91.1	30-150		10/1/11 10:56

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBB-012 | Sampled: 9/28/2011 14:30

Sample ID: 11I1022-12

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 11:10	PJG
Aroclor-1221 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 11:10	PJG
Aroclor-1232 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 11:10	PJG
Aroclor-1242 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 11:10	PJG
Aroclor-1248 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 11:10	PJG
Aroclor-1254 [1]	25	4.8	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 11:10	PJG
Aroclor-1260 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 11:10	PJG
Aroclor-1262 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 11:10	PJG
Aroclor-1268 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/29/11	10/1/11 11:10	PJG

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

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11I1022

Date Received: 9/28/2011

Field Sample #: KGL-VBB-013 | Sampled: 9/28/2011 14:50

Sample ID: 11I1022-13

Sample Matrix: Product/Solid

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 11:24	PJG
Aroclor-1221 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 11:24	PJG
Aroclor-1232 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 11:24	PJG
Aroclor-1242 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 11:24	PJG
Aroclor-1248 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 11:24	PJG
Aroclor-1254 [1]	2.4	0.48	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 11:24	PJG
Aroclor-1260 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 11:24	PJG
Aroclor-1262 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 11:24	PJG
Aroclor-1268 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/29/11	10/1/11 11:24	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	93.3	30-150		10/1/11 11:24
Decachlorobiphenyl [2]	91.3	30-150		10/1/11 11:24
Tetrachloro-m-xylene [1]	91.0	30-150		10/1/11 11:24
Tetrachloro-m-xylene [2]	98.6	30-150		10/1/11 11:24

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11I1022-01 [KGL-VBR-001]	B038238	2.30	10.0	09/29/11
11I1022-02 [KGL-VBR-002]	B038238	2.00	10.0	09/29/11
11I1022-05 [KGL-VBR-005]	B038238	2.10	10.0	09/29/11
11I1022-06 [KGL-VBR-006]	B038238	2.10	10.0	09/29/11
11I1022-07 [KGL-VBR-007]	B038238	2.00	10.0	09/29/11
11I1022-08 [KGL-VBR-008]	B038238	2.30	10.0	09/29/11

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11I1022-09 [KGL-VBR-009]	B038239	2.10	10.0	09/29/11
11I1022-10 [KGL-VBR-010]	B038239	2.00	10.0	09/29/11
11I1022-11 [KGL-VBB-011]	B038239	2.20	10.0	09/29/11
11I1022-12 [KGL-VBB-012]	B038239	2.10	10.0	09/29/11
11I1022-13 [KGL-VBB-013]	B038239	2.10	10.0	09/29/11

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B038238 - SW-846 3540C										
Blank (B038238-BLK1)				Prepared: 09/29/11 Analyzed: 09/30/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.782*		mg/Kg	1.00		78.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.757*		mg/Kg	1.00		75.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.973*		mg/Kg	1.00		97.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.895*		mg/Kg	1.00		89.5	30-150			
LCS (B038238-BS1)				Prepared: 09/29/11 Analyzed: 09/30/11						
Aroclor-1016	0.25	0.10	mg/Kg	0.250		99.0	40-140			
Aroclor-1016 [2C]	0.27	0.10	mg/Kg	0.250		107	40-140			
Aroclor-1260	0.24	0.10	mg/Kg	0.250		96.2	40-140			
Aroclor-1260 [2C]	0.22	0.10	mg/Kg	0.250		87.9	40-140			
Surrogate: Decachlorobiphenyl	*0.873*		mg/Kg	1.00		87.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.836*		mg/Kg	1.00		83.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.972*		mg/Kg	1.00		97.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.894*		mg/Kg	1.00		89.4	30-150			
LCS Dup (B038238-BSD1)				Prepared: 09/29/11 Analyzed: 09/30/11						
Aroclor-1016	0.28	0.10	mg/Kg	0.250		110	40-140	10.6	30	
Aroclor-1016 [2C]	0.30	0.10	mg/Kg	0.250		119	40-140	10.3	30	
Aroclor-1260	0.25	0.10	mg/Kg	0.250		100	40-140	4.25	30	
Aroclor-1260 [2C]	0.23	0.10	mg/Kg	0.250		92.1	40-140	4.64	30	
Surrogate: Decachlorobiphenyl	*0.873*		mg/Kg	1.00		87.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.845*		mg/Kg	1.00		84.5	30-150			
Surrogate: Tetrachloro-m-xylene	*1.03*		mg/Kg	1.00		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.956*		mg/Kg	1.00		95.6	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B038238 - SW-846 3540C											
Matrix Spike (B038238-MS1)		**Source: 11I1022-01**		Prepared: 09/29/11 Analyzed: 10/01/11							
Aroclor-1016	0.37	0.10	mg/Kg	0.250	0.0	**150**	*	40-140			MS-21
Aroclor-1016 [2C]	2.0	0.10	mg/Kg	0.250	0.0	**808**	*	40-140			MS-21
Aroclor-1260	2.7	0.10	mg/Kg	0.250	0.0	**1060**	*	40-140			MS-21
Aroclor-1260 [2C]	2.7	0.10	mg/Kg	0.250	0.0	**1070**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.912*		mg/Kg	1.00		91.2		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.864*		mg/Kg	1.00		86.4		30-150			
Surrogate: Tetrachloro-m-xylene	*0.945*		mg/Kg	1.00		94.5		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.860*		mg/Kg	1.00		86.0		30-150			
Matrix Spike Dup (B038238-MSD1)		**Source: 11I1022-01**		Prepared: 09/29/11 Analyzed: 10/01/11							
Aroclor-1016	0.41	0.10	mg/Kg	0.250	0.0	**165**	*	40-140	9.78	50	MS-21
Aroclor-1016 [2C]	2.4	0.10	mg/Kg	0.250	0.0	**959**	*	40-140	17.1	50	MS-21
Aroclor-1260	3.4	0.10	mg/Kg	0.250	0.0	**1360**	*	40-140	24.7	50	MS-21
Aroclor-1260 [2C]	3.3	0.10	mg/Kg	0.250	0.0	**1340**	*	40-140	22.5	50	MS-21
Surrogate: Decachlorobiphenyl	*0.867*		mg/Kg	1.00		86.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.825*		mg/Kg	1.00		82.5		30-150			
Surrogate: Tetrachloro-m-xylene	*1.00*		mg/Kg	1.00		100		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.906*		mg/Kg	1.00		90.6		30-150			
Batch B038239 - SW-846 3540C											
Blank (B038239-BLK1)				Prepared: 09/29/11 Analyzed: 09/30/11							
Aroclor-1016	ND	0.10	mg/Kg								
Aroclor-1016 [2C]	ND	0.10	mg/Kg								
Aroclor-1221	ND	0.10	mg/Kg								
Aroclor-1221 [2C]	ND	0.10	mg/Kg								
Aroclor-1232	ND	0.10	mg/Kg								
Aroclor-1232 [2C]	ND	0.10	mg/Kg								
Aroclor-1242	ND	0.10	mg/Kg								
Aroclor-1242 [2C]	ND	0.10	mg/Kg								
Aroclor-1248	ND	0.10	mg/Kg								
Aroclor-1248 [2C]	ND	0.10	mg/Kg								
Aroclor-1254	ND	0.10	mg/Kg								
Aroclor-1254 [2C]	ND	0.10	mg/Kg								
Aroclor-1260	ND	0.10	mg/Kg								
Aroclor-1260 [2C]	ND	0.10	mg/Kg								
Aroclor-1262	ND	0.10	mg/Kg								
Aroclor-1262 [2C]	ND	0.10	mg/Kg								
Aroclor-1268	ND	0.10	mg/Kg								
Aroclor-1268 [2C]	ND	0.10	mg/Kg								
Surrogate: Decachlorobiphenyl	*0.846*		mg/Kg	1.00		84.6		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.784*		mg/Kg	1.00		78.4		30-150			
Surrogate: Tetrachloro-m-xylene	*0.980*		mg/Kg	1.00		98.0		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.898*		mg/Kg	1.00		89.8		30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B038239 - SW-846 3540C											
LCS (B038239-BS1)				Prepared: 09/29/11 Analyzed: 09/30/11							
Aroclor-1016	0.26	0.10	mg/Kg	0.250		105		40-140			
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		115		40-140			
Aroclor-1260	0.24	0.10	mg/Kg	0.250		95.3		40-140			
Aroclor-1260 [2C]	0.23	0.10	mg/Kg	0.250		92.3		40-140			
Surrogate: Decachlorobiphenyl	*0.830*		mg/Kg	1.00		83.0		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.773*		mg/Kg	1.00		77.3		30-150			
Surrogate: Tetrachloro-m-xylene	*0.991*		mg/Kg	1.00		99.1		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.905*		mg/Kg	1.00		90.5		30-150			
LCS Dup (B038239-BSD1)				Prepared: 09/29/11 Analyzed: 09/30/11							
Aroclor-1016	0.26	0.10	mg/Kg	0.250		104		40-140	1.80	30	
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		115		40-140	0.366	30	
Aroclor-1260	0.24	0.10	mg/Kg	0.250		96.1		40-140	0.861	30	
Aroclor-1260 [2C]	0.24	0.10	mg/Kg	0.250		95.5		40-140	3.45	30	
Surrogate: Decachlorobiphenyl	*0.853*		mg/Kg	1.00		85.3		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.795*		mg/Kg	1.00		79.5		30-150			
Surrogate: Tetrachloro-m-xylene	*0.984*		mg/Kg	1.00		98.4		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.901*		mg/Kg	1.00		90.1		30-150			
Matrix Spike (B038239-MS1)		**Source: 11I1022-09**		Prepared: 09/29/11 Analyzed: 09/30/11							
Aroclor-1016	2.6	0.087	mg/Kg	0.217	0.0	**1180**	*	40-140			MS-21
Aroclor-1016 [2C]	29	0.087	mg/Kg	0.217	0.0	**13300**	*	40-140			MS-21
Aroclor-1260	50	0.087	mg/Kg	0.217	0.0	**23100**	*	40-140			MS-21
Aroclor-1260 [2C]	42	0.087	mg/Kg	0.217	0.0	**19400**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.802*		mg/Kg	0.870		92.2		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.761*		mg/Kg	0.870		87.5		30-150			
Surrogate: Tetrachloro-m-xylene	*0.851*		mg/Kg	0.870		97.8		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.773*		mg/Kg	0.870		88.9		30-150			
Matrix Spike Dup (B038239-MSD1)		**Source: 11I1022-09**		Prepared: 09/29/11 Analyzed: 09/30/11							
Aroclor-1016	2.3	0.091	mg/Kg	0.227	0.0	**991**	*	40-140	13.3	50	MS-21
Aroclor-1016 [2C]	25	0.091	mg/Kg	0.227	0.0	**10900**	*	40-140	15.9	50	MS-21
Aroclor-1260	43	0.091	mg/Kg	0.227	0.0	**18900**	*	40-140	15.6	50	MS-21
Aroclor-1260 [2C]	37	0.091	mg/Kg	0.227	0.0	**16100**	*	40-140	14.0	50	MS-21
Surrogate: Decachlorobiphenyl	*0.818*		mg/Kg	0.909		89.9		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.773*		mg/Kg	0.909		85.0		30-150			
Surrogate: Tetrachloro-m-xylene	*0.826*		mg/Kg	0.909		90.8		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.755*		mg/Kg	0.909		83.0		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.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

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CERTIFICATIONS

Certified Analyses included in this Report

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

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

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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

CHAIN OF CUSTODY RECORD

111I1022

39 Spruce Street
East longmeadow, MA 01028

Company Name: Woodard & Curran
Address: 35 New England Business Park, Andover, MASS.
Attention: George Franklin
Project Location: Yale - Kline Geology Lab
Sampled By: Kimberly Rinard

Telephone:
Project # 224415
Client PO#

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

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

ANALYSIS REQUESTED: EPA 8082 PCBs/Soxhlet

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	EPA 8082 PCBs/Soxhlet
-01	KGL-VBR-001	9/27/11	1050			R	U	✓
-02	KGL-VBR-002	↓	1100			R	U	✓
-03	KGL-VBR-003	↓	1210			R	U	✓
-04	KGL-VBR-004	↓	1220			R	U	✓
-05	KGL-VBR-005	↓	1425			R	U	✓
-06	KGL-VBR-006	9/27/11	1435			R	U	✓
-07	KGL-VBR-007	↓	1530			R	U	✓
-08	KGL-VBR-008	↓	1540			R	U	✓
-09	KGL-VBR-009	9/28/11	1000			R	U	✓
-10	KGL-VBR-010	↓	1010			R	U	✓

do not analyze per George F. MK 9/28/11

Comments: EPA 8082 w/ Soxhlet (R.L. 1mg/Kg)
* also email results to: jhamel@woodardcurran.com
Cell phone # (413)531-4455

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: 9/28/2011 1715	Turnaround ††	Detection Limit Requirements
Received by: (signature)	Date/Time: 9/28/11 1715	☐ 7-Day ☐ 10-Day ☑ Other 5DAY	Massachusetts:
Relinquished by: (signature)	Date/Time:	RUSH † ☐ †24-Hr ☐ †48-Hr ☐ †72-Hr ☐ †4-Day	Connecticut: R.L. = 1mg/Kg
Received by: (signature)	Date/Time:	† Require lab approval	Other:

Is your project MCP or RCP ?
N/A
O MCP Analytical Certification Form Required
O RCP Analysis Certification Form Required
O MA State DW Form Required PWSID # _____

NELAC & AIHA Certified
WBE/DBE Certified

# of Containers
** Preservation
***Container Code

Dissolved Metals
O Field Filtered
O Lab to Filter

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

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

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

†† 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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East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

11I1077

Page 2 of 2

Company Name: Woodard & Curran
Address: 35 New England Business Park, Andover, MASS
Attention: George Franklin
Project Location: Yale - Kline Geo Lab
Sampled By: Kim Ramos

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

Telephone:
Project # 224415
Client PO#

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB's by 8082 w/ Soxhlet	# of Containers	** Preservation	***Container Code
-11	KGL-VBB-011	9/28/11	1200			B	U	✓			
-12	KGL-VBB-012	↓	1430			B	U	✓			
-13	KGL-VBB-013	↓	1450			B	U	✓			

9/28/2011 KGL

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 _____
B=Brick

Comments: R.L. 1 mg/Kg PCB's by EPA 8082 w/ Soxhlet
email results to jhamel@woodardcurran.com (Cell phone (413) 531-4455)

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:
KGL	9/28/2011 1715
Received by: (signature)	Date/Time: 9/28/11 1715
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: 1 mg/Kg
Other:

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

NELAC & AIHA Certified
WBE/DBE Certified

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

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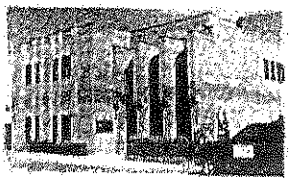

Sample Receipt Checklist

CLIENT NAME: Woodard + Curran RECEIVED BY: SD DATE: 9/28/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 12.6

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:

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)	13	2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May

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October 6, 2011

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

Project Location: Yale-Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0105

Enclosed are results of analyses for samples received by the laboratory on October 4, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 10/6/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0105

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

PROJECT LOCATION: Yale-Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VW-034	11J0105-01	Wipe		SW-846 8082A	
KGL-VW-035	11J0105-02	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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

Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11J0105

Date Received: 10/4/2011

Field Sample #: KGL-VW-034
Sampled: 10/4/2011 15:00

Sample ID: 11J0105-01

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	10/4/11	10/5/11 13:40	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:40	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:40	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:40	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:40	JMB
Aroclor-1254 [2]	2.1	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:40	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:40	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:40	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:40	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.1	30-150		10/5/11 13:40
Decachlorobiphenyl [2]	103	30-150		10/5/11 13:40
Tetrachloro-m-xylene [1]	93.6	30-150		10/5/11 13:40
Tetrachloro-m-xylene [2]	91.7	30-150		10/5/11 13:40

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Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11J0105

Date Received: 10/4/2011

Field Sample #: KGL-VW-035
Sampled: 10/4/2011 15:10

Sample ID: 11J0105-02

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	10/4/11	10/5/11 13:54	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:54	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:54	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:54	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:54	JMB
Aroclor-1254 [1]	0.58	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:54	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:54	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:54	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/4/11	10/5/11 13:54	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		10/5/11 13:54
Decachlorobiphenyl [2]	107	30-150		10/5/11 13:54
Tetrachloro-m-xylene [1]	106	30-150		10/5/11 13:54
Tetrachloro-m-xylene [2]	102	30-150		10/5/11 13:54

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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
11J0105-01 [KGL-VW-034]	B038533	1.00	10.0	10/04/11
11J0105-02 [KGL-VW-035]	B038533	1.00	10.0	10/04/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B038533 - SW-846 3540C										
Blank (B038533-BLK1)				Prepared: 10/04/11 Analyzed: 10/05/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.65*		µg/Wipe	2.00		82.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.66*		µg/Wipe	2.00		83.0	30-150			
Surrogate: Tetrachloro-m-xylene	*1.61*		µg/Wipe	2.00		80.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.56*		µg/Wipe	2.00		77.8	30-150			
LCS (B038533-BS1)				Prepared: 10/04/11 Analyzed: 10/05/11						
Aroclor-1016	0.52	0.20	µg/Wipe	0.500		103	40-140			
Aroclor-1016 [2C]	0.53	0.20	µg/Wipe	0.500		107	40-140			
Aroclor-1260	0.60	0.20	µg/Wipe	0.500		121	40-140			
Aroclor-1260 [2C]	0.56	0.20	µg/Wipe	0.500		112	40-140			
Surrogate: Decachlorobiphenyl	*1.95*		µg/Wipe	2.00		97.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.97*		µg/Wipe	2.00		98.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.86*		µg/Wipe	2.00		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.80*		µg/Wipe	2.00		90.0	30-150			
LCS Dup (B038533-BSD1)				Prepared: 10/04/11 Analyzed: 10/05/11						
Aroclor-1016	0.53	0.20	µg/Wipe	0.500		106	40-140	2.45	30	
Aroclor-1016 [2C]	0.55	0.20	µg/Wipe	0.500		111	40-140	3.52	30	
Aroclor-1260	0.60	0.20	µg/Wipe	0.500		119	40-140	1.46	30	
Aroclor-1260 [2C]	0.58	0.20	µg/Wipe	0.500		115	40-140	2.72	30	
Surrogate: Decachlorobiphenyl	*2.01*		µg/Wipe	2.00		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.05*		µg/Wipe	2.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*1.92*		µg/Wipe	2.00		96.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.86*		µg/Wipe	2.00		92.8	30-150			

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FLAG/QUALIFIER SUMMARY

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

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

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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	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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www.contestlabs.com
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East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

Page 1 of 1

1J0105
MAY BE A RUSH!
CALL GEORGE FRANKLIN

Company Name: Woodard + Curran
Address: 35 New England Bus Park Dr
Andover, MASS
Attention: G. Franklin, J Hamel
Project Location: Yale - Kline Geo
Sampled By: Kim Rinaro (413) 531-4455

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

Telephone:
Project # 224415
Client PO#

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPA 8082 by Soxhlet	# of Containers	** Preservation	***Container Code
01	KGL-VW-034	10/4/11	1500			WI	V	✓	1	O	G
02	KGL-VW-035	↓	1510			WI	V	✓	1	O	G

Note for G. Franklin:
These are the samples for the Klenz-Seal mockup. Surface was dry at time of sampling enclosed from rain - by poly sheet canopy. (KAR) 10/4/11
* Wipes saturated w/ Hexane @ time of sampling

KAR 10/4/2011

Comments: EPA 8082 by Soxhlet - ~~RL @ 1 mg/kg~~ KAR 10/4/11 1 microgram per wipe
Email - gfranklin@woodardcurran.com
jhamel@ " " " "

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

***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 ~~HEXANE~~

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

Dissolved Metals
○ Field Filtered
○ Lab to Filter

Relinquished by: (signature)	Date/Time:
K Rinaro	10/4/11 1830
Received by: (signature) Paula Bleck	Date/Time: 10/4/11 1830
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut: RL @ 1 µg/wipe
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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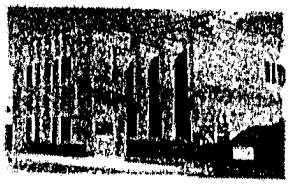

Sample Receipt Checklist

CLIENT NAME: Woodward and Curran RECEIVED BY: C. C-S. DATE: 10/4/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

On Ice [✓] Direct from Sampling [ ] Ambient [ ] In Cooler(s) [✓]

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 2.9

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 14

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/(clear) jar	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:

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

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

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October 6, 2011

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

Project Location: Yale-Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0148

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

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 10/6/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0148

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

PROJECT LOCATION: Yale-Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VW-036	11J0148-01	Wipe		SW-846 8082A	
KGL-VW-037	11J0148-02	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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

Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11J0148

Date Received: 10/5/2011

Field Sample #: KGL-VW-036 | Sampled: 10/5/2011 12:58

Sample ID: 11J0148-01

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	10/5/11	10/6/11 11:56	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 11:56	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 11:56	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 11:56	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 11:56	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 11:56	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 11:56	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 11:56	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 11:56	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.8	30-150		10/6/11 11:56
Decachlorobiphenyl [2]	94.7	30-150		10/6/11 11:56
Tetrachloro-m-xylene [1]	107	30-150		10/6/11 11:56
Tetrachloro-m-xylene [2]	103	30-150		10/6/11 11:56

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11J0148

Date Received: 10/5/2011

Field Sample #: KGL-VW-037 | Sampled: 10/5/2011 13:08

Sample ID: 11J0148-02

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	10/5/11	10/6/11 12:10	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 12:10	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 12:10	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 12:10	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 12:10	JMB
Aroclor-1254 [2]	0.29	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 12:10	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 12:10	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 12:10	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/5/11	10/6/11 12:10	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.3	30-150		10/6/11 12:10
Decachlorobiphenyl [2]	96.8	30-150		10/6/11 12:10
Tetrachloro-m-xylene [1]	102	30-150		10/6/11 12:10
Tetrachloro-m-xylene [2]	99.3	30-150		10/6/11 12:10

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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
11J0148-01 [KGL-VW-036]	B038612	1.00	10.0	10/05/11
11J0148-02 [KGL-VW-037]	B038612	1.00	10.0	10/05/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B038612 - SW-846 3540C										
Blank (B038612-BLK1)				Prepared: 10/05/11 Analyzed: 10/06/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.87*		µg/Wipe	2.00		93.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.84*		µg/Wipe	2.00		92.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.93*		µg/Wipe	2.00		96.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.00*		µg/Wipe	2.00		100	30-150			
LCS (B038612-BS1)				Prepared: 10/05/11 Analyzed: 10/06/11						
Aroclor-1016	0.54	0.20	µg/Wipe	0.500		108	40-140			
Aroclor-1016 [2C]	0.54	0.20	µg/Wipe	0.500		107	40-140			
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		105	40-140			
Aroclor-1260 [2C]	0.58	0.20	µg/Wipe	0.500		117	40-140			
Surrogate: Decachlorobiphenyl	*2.07*		µg/Wipe	2.00		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.03*		µg/Wipe	2.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*2.11*		µg/Wipe	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.03*		µg/Wipe	2.00		102	30-150			
LCS Dup (B038612-BSD1)				Prepared: 10/05/11 Analyzed: 10/06/11						
Aroclor-1016	0.54	0.20	µg/Wipe	0.500		109	40-140	0.419	30	
Aroclor-1016 [2C]	0.53	0.20	µg/Wipe	0.500		106	40-140	0.712	30	
Aroclor-1260	0.51	0.20	µg/Wipe	0.500		103	40-140	1.99	30	
Aroclor-1260 [2C]	0.56	0.20	µg/Wipe	0.500		113	40-140	3.73	30	
Surrogate: Decachlorobiphenyl	*1.87*		µg/Wipe	2.00		93.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.86*		µg/Wipe	2.00		93.0	30-150			
Surrogate: Tetrachloro-m-xylene	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.01*		µg/Wipe	2.00		101	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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Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

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MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

11J0148

CHAIN OF CUSTODY RECORD

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Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Chris will log as 24Hr rush. RUSH!!!

Company Name: WOODARD + CURRAN
Address: 35 NEW ENGLAND BUSINESS PARK ANDOVER, MASS.
Attention: G. Franklin, J Hamel
Project Location: YALE - KLINE GEO
Sampled By: Kimberly Rinard (413) 531-4455

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

Telephone:
Project # 224415
Client PO#

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

ANALYSIS REQUESTED: EPA 8082 by Soxhlet

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	EPA 8082 by Soxhlet	# of Containers	** Preservation	***Container Code
	KGL-VW-036	10/5/11	1258		✓	WI	U	✓			
	KGL-VW-037	↓	1308		✓	WI	U	✓			
			10/5/2011								
	*2nd sampling Room 345 - Silica 62										

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 HEXANE

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

Comments:
R.L. 1 ug/wipe
PCB's by Soxhlet

Email results: gfranklin@woodardcurran.com
jhamel@ " " "
krinard@ " " "

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:
	10/5/11 1520
Received by: (signature) DFS 10-0	Date/Time: 10/5/11 1520
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut: RL 1 ug/wipe
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene

NELAC & AIHA Certified
WBE/DBE Certified

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

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Sample Receipt Checklist

CLIENT NAME: Woodard & Curran **RECEIVED BY:** CEC **DATE:** 10/5/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 10.0°

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	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:

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

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

Doc# 277

Rev. 1 May

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October 7, 2011

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

Project Location: Yale-Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0213

Enclosed are results of analyses for samples received by the laboratory on October 6, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 10/7/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0213

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

PROJECT LOCATION: Yale-Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VW-038	11J0213-01	Wipe		SW-846 8082A	
KGL-VW-039	11J0213-02	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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

Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11J0213

Date Received: 10/6/2011

Field Sample #: KGL-VW-038 | Sampled: 10/6/2011 15:25

Sample ID: 11J0213-01

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	10/6/11	10/7/11 13:47	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:47	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:47	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:47	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:47	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:47	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:47	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:47	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:47	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	117	30-150		10/7/11 13:47
Decachlorobiphenyl [2]	112	30-150		10/7/11 13:47
Tetrachloro-m-xylene [1]	114	30-150		10/7/11 13:47
Tetrachloro-m-xylene [2]	119	30-150		10/7/11 13:47

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11J0213

Date Received: 10/6/2011

Field Sample #: KGL-VW-039 | Sampled: 10/6/2011 15:35

Sample ID: 11J0213-02

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	10/6/11	10/7/11 13:59	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:59	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:59	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:59	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:59	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:59	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:59	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:59	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/6/11	10/7/11 13:59	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	120	30-150		10/7/11 13:59
Decachlorobiphenyl [2]	115	30-150		10/7/11 13:59
Tetrachloro-m-xylene [1]	116	30-150		10/7/11 13:59
Tetrachloro-m-xylene [2]	121	30-150		10/7/11 13:59

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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
11J0213-01 [KGL-VW-038]	B038711	1.00	10.0	10/06/11
11J0213-02 [KGL-VW-039]	B038711	1.00	10.0	10/06/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B038711 - SW-846 3540C										
Blank (B038711-BLK1)				Prepared: 10/06/11 Analyzed: 10/07/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.24*		µg/Wipe	2.00		112	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.15*		µg/Wipe	2.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	*2.14*		µg/Wipe	2.00		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.24*		µg/Wipe	2.00		112	30-150			
LCS (B038711-BS1)				Prepared: 10/06/11 Analyzed: 10/07/11						
Aroclor-1016	0.50	0.20	µg/Wipe	0.500		100	40-140			
Aroclor-1016 [2C]	0.53	0.20	µg/Wipe	0.500		105	40-140			
Aroclor-1260	0.50	0.20	µg/Wipe	0.500		99.7	40-140			
Aroclor-1260 [2C]	0.50	0.20	µg/Wipe	0.500		101	40-140			
Surrogate: Decachlorobiphenyl	*2.01*		µg/Wipe	2.00		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.95*		µg/Wipe	2.00		97.3	30-150			
Surrogate: Tetrachloro-m-xylene	*1.91*		µg/Wipe	2.00		95.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.03*		µg/Wipe	2.00		102	30-150			
LCS Dup (B038711-BSD1)				Prepared: 10/06/11 Analyzed: 10/07/11						
Aroclor-1016	0.54	0.20	µg/Wipe	0.500		107	40-140	7.01	30	
Aroclor-1016 [2C]	0.57	0.20	µg/Wipe	0.500		115	40-140	8.74	30	
Aroclor-1260	0.54	0.20	µg/Wipe	0.500		108	40-140	7.57	30	
Aroclor-1260 [2C]	0.55	0.20	µg/Wipe	0.500		109	40-140	8.10	30	
Surrogate: Decachlorobiphenyl	*2.11*		µg/Wipe	2.00		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.04*		µg/Wipe	2.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*1.98*		µg/Wipe	2.00		99.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.11*		µg/Wipe	2.00		106	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	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

11J0213

CHAIN OF CUSTODY RECORD

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Page 1 of 1

RUSH → Results by E.O.D Friday 10/7/11 if possible

Company Name: WOODARD + CURRAN
Address: 35 NEW ENGLAND BUSINESS PARK ANDOVER, MASS
Attention: G. Franklin, J Hamel, K Rinard
Project Location: YALE - KLINE GEO LAB
Sampled By: K. Rinard (413) 531-4455

Telephone:
Project # 224415
Client PO#

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

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPA 8082 by Soxhlet	# of Containers (1)	** Preservation (O)	***Container Code (G)
-01	KGL-VW-038	10/6/11	1525		✓	W1	U	✓			
-02	KGL-VW-039	10/6/11	1535		✓	W1	U	✓			

10/6/11

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 HEXANE

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____
W1 = WIPE

Comments: 3rd Coat Sika 62 R.L = 1ug/wipe EPA 8082 by Soxhlet
Email: gfranklin@woodardcurran.com, jhamel@ " " " , krinard@ " " "

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

Relinquished by: (signature)	Date/Time:
K. Rinard	10/6/11 1815
Received by: (signature)	Date/Time:
Paula Blakeborough	10/6/11 1815
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut: 1ug per wipe
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
AIHA
NELAC & AIHA Certified
WBE/DBE Certified

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

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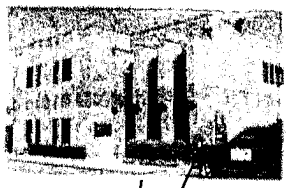

Sample Receipt Checklist

CLIENT NAME: Woodard & Curran **RECEIVED BY:** CFC **DATE:** 10/6/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 17.1

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored:

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	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:

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

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

Doc# 277

Rev. 1 May 2011

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October 10, 2011

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

Project Location: Yale University-Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0058

Enclosed are results of analyses for samples received by the laboratory on October 3, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 10/10/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0058

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

PROJECT LOCATION: Yale University-Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VBT-017	11J0058-01	Soil		SM 2540G	
				SW-846 8082A	
KGL-VBB-026	11J0058-02	Brick		SW-846 8082A	
KGL-VBB-027	11J0058-03	Brick		SW-846 8082A	
KGL-VBR-028	11J0058-04	Brick		SW-846 8082A	
KGL-VBR-029	11J0058-05	Brick		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

B038449-MS1, B038449-MSD1

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

Analyte & Samples(s) Qualified:

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

11J0058-05[KGL-VBR-029]

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

Daren J. Damboragian
Laboratory Manager

con-test® ANALYTICAL LABORATORY

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

Project Location: Yale University-Kline Geology La Sample Description: Work Order: 11J0058

Date Received: 10/3/2011

Field Sample #: KGL-VBT-017 Sampled: 9/30/2011 13:10

Sample ID: 11J0058-01

Sample Matrix: Soil

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	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:01	JMB
Aroclor-1221 [1]	ND	0.20	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:01	JMB
Aroclor-1232 [1]	ND	0.20	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:01	JMB
Aroclor-1242 [1]	ND	0.20	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:01	JMB
Aroclor-1248 [1]	ND	0.20	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:01	JMB
Aroclor-1254 [1]	1.5	0.20	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:01	JMB
Aroclor-1260 [1]	ND	0.20	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:01	JMB
Aroclor-1262 [1]	ND	0.20	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:01	JMB
Aroclor-1268 [1]	ND	0.20	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:01	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.7	30-150		10/5/11 9:01
Decachlorobiphenyl [2]	95.6	30-150		10/5/11 9:01
Tetrachloro-m-xylene [1]	107	30-150		10/5/11 9:01
Tetrachloro-m-xylene [2]	108	30-150		10/5/11 9:01

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Project Location: Yale University-Kline Geology La Sample Description: Work Order: 11J0058

Date Received: 10/3/2011

Field Sample #: KGL-VBT-017 Sampled: 9/30/2011 13:10

Sample ID: 11J0058-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.0		% Wt	1		SM 2540G	10/6/11	10/7/11 10:09	ESH

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Project Location: Yale University-Kline Geology La Sample Description: Work Order: 11J0058

Date Received: 10/3/2011

Field Sample #: KGL-VBB-026 Sampled: 10/3/2011 13:30

Sample ID: 11J0058-02

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/3/11	10/5/11 9:15	JMB
Aroclor-1221 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/3/11	10/5/11 9:15	JMB
Aroclor-1232 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/3/11	10/5/11 9:15	JMB
Aroclor-1242 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/3/11	10/5/11 9:15	JMB
Aroclor-1248 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/3/11	10/5/11 9:15	JMB
Aroclor-1254 [1]	12	1.9	mg/Kg	20		SW-846 8082A	10/3/11	10/5/11 9:15	JMB
Aroclor-1260 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/3/11	10/5/11 9:15	JMB
Aroclor-1262 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/3/11	10/5/11 9:15	JMB
Aroclor-1268 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/3/11	10/5/11 9:15	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	108	30-150		10/5/11 9:15
Decachlorobiphenyl [2]	119	30-150		10/5/11 9:15
Tetrachloro-m-xylene [1]	110	30-150		10/5/11 9:15
Tetrachloro-m-xylene [2]	124	30-150		10/5/11 9:15

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Project Location: Yale University-Kline Geology La Sample Description: Work Order: 11J0058

Date Received: 10/3/2011

Field Sample #: KGL-VBB-027 Sampled: 10/3/2011 14:00

Sample ID: 11J0058-03

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.19	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:29	JMB
Aroclor-1221 [1]	ND	0.19	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:29	JMB
Aroclor-1232 [1]	ND	0.19	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:29	JMB
Aroclor-1242 [1]	ND	0.19	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:29	JMB
Aroclor-1248 [1]	ND	0.19	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:29	JMB
Aroclor-1254 [1]	1.6	0.19	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:29	JMB
Aroclor-1260 [1]	ND	0.19	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:29	JMB
Aroclor-1262 [1]	ND	0.19	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:29	JMB
Aroclor-1268 [1]	ND	0.19	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:29	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.0	30-150		10/5/11 9:29
Decachlorobiphenyl [2]	100	30-150		10/5/11 9:29
Tetrachloro-m-xylene [1]	100	30-150		10/5/11 9:29
Tetrachloro-m-xylene [2]	101	30-150		10/5/11 9:29

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Project Location: Yale University-Kline Geology La Sample Description: Work Order: 11J0058

Date Received: 10/3/2011

Field Sample #: KGL-VBR-028 Sampled: 10/3/2011 15:10

Sample ID: 11J0058-04

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.18	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:43	JMB
Aroclor-1221 [1]	ND	0.18	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:43	JMB
Aroclor-1232 [1]	ND	0.18	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:43	JMB
Aroclor-1242 [1]	ND	0.18	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:43	JMB
Aroclor-1248 [1]	ND	0.18	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:43	JMB
Aroclor-1254 [1]	1.2	0.18	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:43	JMB
Aroclor-1260 [1]	ND	0.18	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:43	JMB
Aroclor-1262 [1]	ND	0.18	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:43	JMB
Aroclor-1268 [1]	ND	0.18	mg/Kg	2		SW-846 8082A	10/3/11	10/5/11 9:43	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	102	30-150		10/5/11 9:43
Decachlorobiphenyl [2]	107	30-150		10/5/11 9:43
Tetrachloro-m-xylene [1]	91.1	30-150		10/5/11 9:43
Tetrachloro-m-xylene [2]	103	30-150		10/5/11 9:43

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Project Location: Yale University-Kline Geology La Sample Description: Work Order: 11J0058

Date Received: 10/3/2011

Field Sample #: KGL-VBR-029 Sampled: 10/3/2011 15:25

Sample ID: 11J0058-05

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	10/3/11	10/5/11 9:57	JMB
Aroclor-1221 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	10/3/11	10/5/11 9:57	JMB
Aroclor-1232 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	10/3/11	10/5/11 9:57	JMB
Aroclor-1242 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	10/3/11	10/5/11 9:57	JMB
Aroclor-1248 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	10/3/11	10/5/11 9:57	JMB
Aroclor-1254 [1]	24	4.8	mg/Kg	50		SW-846 8082A	10/3/11	10/5/11 9:57	JMB
Aroclor-1260 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	10/3/11	10/5/11 9:57	JMB
Aroclor-1262 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	10/3/11	10/5/11 9:57	JMB
Aroclor-1268 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	10/3/11	10/5/11 9:57	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/5/11 9:57
Decachlorobiphenyl [2]	*	30-150	S-01	10/5/11 9:57
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/5/11 9:57
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/5/11 9:57

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Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
11J0058-01 [KGL-VBT-017]	B038723	10/06/11

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0058-01 [KGL-VBT-017]	B038449	2.00	10.0	10/03/11
11J0058-02 [KGL-VBB-026]	B038449	2.10	10.0	10/03/11
11J0058-03 [KGL-VBB-027]	B038449	2.10	10.0	10/03/11
11J0058-04 [KGL-VBR-028]	B038449	2.20	10.0	10/03/11
11J0058-05 [KGL-VBR-029]	B038449	2.10	10.0	10/03/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B038449 - SW-846 3540C										
Blank (B038449-BLK1)				Prepared: 10/03/11 Analyzed: 10/04/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.980*		mg/Kg	1.00		98.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.03*		mg/Kg	1.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*1.03*		mg/Kg	1.00		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.02*		mg/Kg	1.00		102	30-150			
LCS (B038449-BS1)				Prepared: 10/03/11 Analyzed: 10/04/11						
Aroclor-1016	0.25	0.10	mg/Kg	0.250		101	40-140			
Aroclor-1016 [2C]	0.27	0.10	mg/Kg	0.250		108	40-140			
Aroclor-1260	0.25	0.10	mg/Kg	0.250		100	40-140			
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		114	40-140			
Surrogate: Decachlorobiphenyl	*0.944*		mg/Kg	1.00		94.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.993*		mg/Kg	1.00		99.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.962*		mg/Kg	1.00		96.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.951*		mg/Kg	1.00		95.1	30-150			
LCS Dup (B038449-BSD1)				Prepared: 10/03/11 Analyzed: 10/04/11						
Aroclor-1016	0.25	0.10	mg/Kg	0.250		100	40-140	0.979	30	
Aroclor-1016 [2C]	0.27	0.10	mg/Kg	0.250		109	40-140	1.12	30	
Aroclor-1260	0.24	0.10	mg/Kg	0.250		97.2	40-140	3.19	30	
Aroclor-1260 [2C]	0.27	0.10	mg/Kg	0.250		107	40-140	6.90	30	
Surrogate: Decachlorobiphenyl	*0.903*		mg/Kg	1.00		90.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.950*		mg/Kg	1.00		95.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.936*		mg/Kg	1.00		93.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.923*		mg/Kg	1.00		92.3	30-150			

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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 B038449 - SW-846 3540C											
Matrix Spike (B038449-MS1)		**Source: 11J0058-01**		Prepared: 10/03/11 Analyzed: 10/04/11							
Aroclor-1016	0.26	0.095	mg/Kg	0.238	0.0	109		40-140			
Aroclor-1016 [2C]	0.39	0.095	mg/Kg	0.238	0.0	**164**	*	40-140			MS-21
Aroclor-1260	0.85	0.095	mg/Kg	0.238	0.0	**355**	*	40-140			MS-21
Aroclor-1260 [2C]	1.1	0.095	mg/Kg	0.238	0.0	**442**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.953*		mg/Kg	0.952		100		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.999*		mg/Kg	0.952		105		30-150			
Surrogate: Tetrachloro-m-xylene	*0.982*		mg/Kg	0.952		103		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.960*		mg/Kg	0.952		101		30-150			
Matrix Spike Dup (B038449-MSD1)		**Source: 11J0058-01**		Prepared: 10/03/11 Analyzed: 10/04/11							
Aroclor-1016	0.26	0.095	mg/Kg	0.238	0.0	108		40-140	0.900	50	
Aroclor-1016 [2C]	0.38	0.095	mg/Kg	0.238	0.0	**161**	*	40-140	1.61	50	MS-21
Aroclor-1260	0.85	0.095	mg/Kg	0.238	0.0	**357**	*	40-140	0.465	50	MS-21
Aroclor-1260 [2C]	1.1	0.095	mg/Kg	0.238	0.0	**447**	*	40-140	1.01	50	MS-21
Surrogate: Decachlorobiphenyl	*0.974*		mg/Kg	0.952		102		30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.02*		mg/Kg	0.952		107		30-150			
Surrogate: Tetrachloro-m-xylene	*0.950*		mg/Kg	0.952		99.8		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.927*		mg/Kg	0.952		97.4		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.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

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CERTIFICATIONS

Certified Analyses included in this Report

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

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

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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CHAIN OF CUSTODY RECORD

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East longmeadow, MA 01028

Page 1 of 1

11J0058

Company Name: WOODARD + CURRAN
Address: 35 NEW ENGLAND BUSINESS PARK
ANDOVER, MASS
Attention: G. Franklin, J. Hamel
Project Location: YALE University - KLINE GEOLAB
Sampled By: Kim Rinard (413) 531-4455

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

Telephone:
Project # 224415
Client PO#

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB by 8082 EPA w/ Soxhlet										# of Containers / ** Preservation / ***Container Code
01	KGL-VBT-017	9/30/11	1310			S	U	✓										
02	KGL-VBB-026	10/3/11	1330			Brick	U	✓										
03	KGL-VBB-027	↓	1400			Brick	U	✓										
04	KGL-VBR-028	↓	1510			R	U	✓										
05	KGL-VBR-029	↓	1525			R	U	✓										

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Comments: Email: gfranklin@woodardcurran.com
jhamel " " " "
R.L. = 1mg/kg
5 day Std TAT

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

Relinquished by: (signature)	Date/Time:
K. Rinard	10/3/11 1750
Received by: (signature)	Date/Time:
[signature]	10/3 1750
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= 1mg/kg
Other:

Is your project MCP or RCP ? (R) - Brownstone
○ 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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F: 413-525-6405
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Sample Receipt Checklist

CLIENT NAME: Woodard + Curran. RECEIVED BY: SD DATE: 10/3/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 6.0

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	2
250 mL Amber (8oz amber)	3	2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May 2011

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

October 10, 2011

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

Project Location: Yale - Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0267

Enclosed are results of analyses for samples received by the laboratory on October 7, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 10/10/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0267

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

PROJECT LOCATION: Yale - Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
K GL-VW-041	11J0267-01	Wipe		SW-846 8082A	
K GL-VW-042	11J0267-02	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

con-test® ANALYTICAL LABORATORY

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

Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J0267

Date Received: 10/7/2011

Field Sample #: K GL-VW-041 | Sampled: 10/7/2011 08:10

Sample ID: 11J0267-01

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	10/7/11	10/8/11 13:47	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 13:47	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 13:47	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 13:47	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 13:47	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 13:47	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 13:47	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 13:47	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 13:47	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	105	30-150		10/8/11 13:47
Decachlorobiphenyl [2]	100	30-150		10/8/11 13:47
Tetrachloro-m-xylene [1]	105	30-150		10/8/11 13:47
Tetrachloro-m-xylene [2]	109	30-150		10/8/11 13:47

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J0267

Date Received: 10/7/2011

Field Sample #: K GL-VW-042
Sampled: 10/7/2011 08:20

Sample ID: 11J0267-02

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	10/7/11	10/8/11 14:00	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 14:00	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 14:00	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 14:00	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 14:00	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 14:00	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 14:00	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 14:00	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/7/11	10/8/11 14:00	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	106	30-150		10/8/11 14:00
Decachlorobiphenyl [2]	98.7	30-150		10/8/11 14:00
Tetrachloro-m-xylene [1]	101	30-150		10/8/11 14:00
Tetrachloro-m-xylene [2]	106	30-150		10/8/11 14:00

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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
11J0267-01 [K GL-VW-041]	B038816	1.00	10.0	10/07/11
11J0267-02 [K GL-VW-042]	B038816	1.00	10.0	10/07/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B038816 - SW-846 3540C										
Blank (B038816-BLK1)				Prepared: 10/07/11 Analyzed: 10/08/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.26*		µg/Wipe	2.00		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.17*		µg/Wipe	2.00		109	30-150			
Surrogate: Tetrachloro-m-xylene	*2.16*		µg/Wipe	2.00		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.25*		µg/Wipe	2.00		112	30-150			
LCS (B038816-BS1)				Prepared: 10/07/11 Analyzed: 10/08/11						
Aroclor-1016	0.53	0.20	µg/Wipe	0.500		106	40-140			
Aroclor-1016 [2C]	0.55	0.20	µg/Wipe	0.500		110	40-140			
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		107	40-140			
Aroclor-1260 [2C]	0.54	0.20	µg/Wipe	0.500		108	40-140			
Surrogate: Decachlorobiphenyl	*2.17*		µg/Wipe	2.00		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.09*		µg/Wipe	2.00		104	30-150			
Surrogate: Tetrachloro-m-xylene	*2.11*		µg/Wipe	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.22*		µg/Wipe	2.00		111	30-150			
LCS Dup (B038816-BSD1)				Prepared: 10/07/11 Analyzed: 10/08/11						
Aroclor-1016	0.46	0.20	µg/Wipe	0.500		91.3	40-140	14.7	30	
Aroclor-1016 [2C]	0.47	0.20	µg/Wipe	0.500		93.4	40-140	16.2	30	
Aroclor-1260	0.45	0.20	µg/Wipe	0.500		91.0	40-140	15.9	30	
Aroclor-1260 [2C]	0.47	0.20	µg/Wipe	0.500		93.8	40-140	14.1	30	
Surrogate: Decachlorobiphenyl	*1.79*		µg/Wipe	2.00		89.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.74*		µg/Wipe	2.00		86.8	30-150			
Surrogate: Tetrachloro-m-xylene	*1.77*		µg/Wipe	2.00		88.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.88*		µg/Wipe	2.00		94.0	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	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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Email: info@contestlabs.com
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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

1150767

Company Name: Woodard + Curran
Address: 35 New England Business Park
Andover, MA
Attention: G. Franklin, J Hamel, K. Rinard
Project Location: Yale - New Haven - Kline Geo Lab
Sampled By: Kimberly Rinard (413) 531-4455

Telephone:
Project # 224415
Client PO#

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

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PLBs by EPA 8082 w/Soxhlet	
-01	KGL-VW-041	10/7/11	KAR 10/7/11 ~~1715~~	0810	✓	WI	U		INTERIOR - CMU
-02	KGL-VW-042	↓	KAR 10/7/11	0820	✓	WI	U		EXTERIOR - BRICK
			10/7/11						
	Room 345 Sika b2 - 3rd Coat								KAR

Comments: EPA 8082 by Soxhlet
RL = 1ug per wipe
Emails: gfranklin@woodardcurran.com
jhamel@ " " "
krinard@ " " "

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

# of Containers	1
** Preservation	0
***Container Code	G

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Relinquished by: (signature) KAR (K. Rinard)	Date/Time: 10/7/11, 1715
Received by: (signature) 3.1°C	Date/Time: 10/7/11 1715
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut: 1 ug per wipe
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene
NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Woodard & Carran **RECEIVED BY:** CEC **DATE:** 10/7/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 3.1°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified Ext Date 10/7/11 Time 1735

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	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:

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

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

Doc# 277

Rev. 1 May 2011

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

October 14, 2011

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

Project Location: Yale-Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0433

Enclosed are results of analyses for samples received by the laboratory on October 13, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 10/14/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0433

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

PROJECT LOCATION: Yale-Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VW-043	11J0433-01	Wipe		SW-846 8082A	
KGL-VW-044	11J0433-02	Wipe		SW-846 8082A	

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

CASE NARRATIVE SUMMARY

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

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

Meghan E. Kelley
Project Chemist

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

Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11J0433

Date Received: 10/13/2011

Field Sample #: KGL-VW-043 | Sampled: 10/13/2011 10:42

Sample ID: 11J0433-01

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	10/13/11	10/14/11 14:27	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/13/11	10/14/11 14:27	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/13/11	10/14/11 14:27	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/13/11	10/14/11 14:27	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/13/11	10/14/11 14:27	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/13/11	10/14/11 14:27	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/13/11	10/14/11 14:27	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/13/11	10/14/11 14:27	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/13/11	10/14/11 14:27	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	97.7	30-150		10/14/11 14:27
Decachlorobiphenyl [2]	102	30-150		10/14/11 14:27
Tetrachloro-m-xylene [1]	103	30-150		10/14/11 14:27
Tetrachloro-m-xylene [2]	104	30-150		10/14/11 14:27

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

Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11J0433

Date Received: 10/13/2011

Field Sample #: KGL-VW-044 | Sampled: 10/13/2011 10:50

Sample ID: 11J0433-02

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	0.40	µg/Wipe	2		SW-846 8082A	10/13/11	10/14/11 15:10	PJG
Aroclor-1221 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	10/13/11	10/14/11 15:10	PJG
Aroclor-1232 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	10/13/11	10/14/11 15:10	PJG
Aroclor-1242 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	10/13/11	10/14/11 15:10	PJG
Aroclor-1248 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	10/13/11	10/14/11 15:10	PJG
Aroclor-1254 [1]	3.5	0.40	µg/Wipe	2		SW-846 8082A	10/13/11	10/14/11 15:10	PJG
Aroclor-1260 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	10/13/11	10/14/11 15:10	PJG
Aroclor-1262 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	10/13/11	10/14/11 15:10	PJG
Aroclor-1268 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	10/13/11	10/14/11 15:10	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	99.9	30-150		10/14/11 15:10
Decachlorobiphenyl [2]	106	30-150		10/14/11 15:10
Tetrachloro-m-xylene [1]	104	30-150		10/14/11 15:10
Tetrachloro-m-xylene [2]	110	30-150		10/14/11 15:10

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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
11J0433-01 [KGL-VW-043]	B039122	1.00	10.0	10/13/11
11J0433-02 [KGL-VW-044]	B039122	1.00	10.0	10/13/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039122 - SW-846 3540C										
Blank (B039122-BLK1)				Prepared: 10/13/11 Analyzed: 10/14/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.76*		µg/Wipe	2.00		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.81*		µg/Wipe	2.00		90.6	30-150			
Surrogate: Tetrachloro-m-xylene	*2.09*		µg/Wipe	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.11*		µg/Wipe	2.00		106	30-150			
LCS (B039122-BS1)				Prepared: 10/13/11 Analyzed: 10/14/11						
Aroclor-1016	0.54	0.20	µg/Wipe	0.500		109	40-140			
Aroclor-1016 [2C]	0.59	0.20	µg/Wipe	0.500		118	40-140			
Aroclor-1260	0.49	0.20	µg/Wipe	0.500		98.8	40-140			
Aroclor-1260 [2C]	0.56	0.20	µg/Wipe	0.500		112	40-140			
Surrogate: Decachlorobiphenyl	*1.89*		µg/Wipe	2.00		94.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.95*		µg/Wipe	2.00		97.3	30-150			
Surrogate: Tetrachloro-m-xylene	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.13*		µg/Wipe	2.00		107	30-150			
LCS Dup (B039122-BSD1)				Prepared: 10/13/11 Analyzed: 10/14/11						
Aroclor-1016	0.56	0.20	µg/Wipe	0.500		113	40-140	3.46	30	
Aroclor-1016 [2C]	0.61	0.20	µg/Wipe	0.500		122	40-140	3.44	30	
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		105	40-140	6.31	30	
Aroclor-1260 [2C]	0.61	0.20	µg/Wipe	0.500		122	40-140	8.37	30	
Surrogate: Decachlorobiphenyl	*1.99*		µg/Wipe	2.00		99.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.04*		µg/Wipe	2.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*2.04*		µg/Wipe	2.00		102	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.07*		µg/Wipe	2.00		103	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	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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Email: info@contestlabs.com
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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

11J0433

Company Name: Woodard + Curran
Address: 35 New England Business Park
Andover, Mass
Attention: G. Franklin, J Hamel
Project Location: Yale - Kline Geo Lab
Sampled By: Kim Rinard (413) 531-4455

Telephone:
Project # 224415
Client PO#

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

Project Proposal Provided? (for billing purposes)
☑ yes 20110921 proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB's by EPA 8082/3540C	# of Containers / ** Preservation / ***Container Code
-01	KGL-VW-043	10/13/11	1042			W1		✓	CMU 207-2 COATS SIKA
-02	KGL-VW-044	↓	1050			W1		✓	Brick 207-SIKA → 2 COATS

KAR

10/13/11

Comments: EPA 8082 PCB's by 3540C Soxhlet Extraction

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

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

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other
W1 = wipe

Relinquished by: (signature)	Date/Time:
KAR K. Rinard	10/13/11 1255
Received by: (signature) Paula Blakeborough	Date/Time: 1255 10/13/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut: RL = < 1mg/Kg
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
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Sample Receipt Checklist

CLIENT NAME: Woodard + Curran **RECEIVED BY:** PB **DATE:** 10/13/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 2.6

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:

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:

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

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

Doc# 277

Rev. 1 May 2011

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 11J0433
Project Location: Yale-Kline Geology Lab	RTN:

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

11J0433-01 thru 11J0433-02

Matrices: Wipe

CAM Protocol (check all that below)

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

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

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

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

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

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

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

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

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

Signature: Meghan E. Kelley Position: Project Chemist

Printed Name: Meghan E. Kelley Date: 10/14/11

11J0433-01 KGL-VW-043

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.06	2.07771	0.856
Decachlorobiphenyl	1.95	2.03395	4.21

11J0433-02 KGL-VW-044

Analyte	Results		%RPD
Aroclor-1254	3.5	3.40238	2.83
Surrogates			
Tetrachloro-m-xylene	2.07	2.19104	5.68
Decachlorobiphenyl	2.00	2.11904	5.78

B039122-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.09	2.11466	1.17
Decachlorobiphenyl	1.76	1.81192	2.91

B039122-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	0.49	0.55998	13.3
Aroclor-1016	0.54	0.58887	8.66
Surrogates			
Tetrachloro-m-xylene	2.10	2.13406	1.61
Decachlorobiphenyl	1.89	1.94645	2.94

B039122-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1260	0.53	0.6089	13.9
Aroclor-1016	0.56	0.6095	8.47
Surrogates			
Tetrachloro-m-xylene	2.04	2.06952	1.44
Decachlorobiphenyl	1.99	2.04412	2.68

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October 17, 2011

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

Project Location: Yale-Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0522

Enclosed are results of analyses for samples received by the laboratory on October 14, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 10/17/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0522

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

PROJECT LOCATION: Yale-Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VW-045	11J0522-01	Wipe		SW-846 8082A	
KGL-VW-046	11J0522-02	Wipe		SW-846 8082A	
KGL-VW-048	11J0522-03	Wipe		SW-846 8082A	
KGL-VW-047	11J0522-04	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

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

Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11J0522

Date Received: 10/14/2011

Field Sample #: KGL-VW-045
Sampled: 10/14/2011 09:15

Sample ID: 11J0522-01

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	10/14/11	10/17/11 11:46	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:46	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:46	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:46	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:46	PJG
Aroclor-1254 [1]	0.35	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:46	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:46	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:46	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:46	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	121	30-150		10/17/11 11:46
Decachlorobiphenyl [2]	114	30-150		10/17/11 11:46
Tetrachloro-m-xylene [1]	123	30-150		10/17/11 11:46
Tetrachloro-m-xylene [2]	123	30-150		10/17/11 11:46

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Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11J0522

Date Received: 10/14/2011

Field Sample #: KGL-VW-046
Sampled: 10/14/2011 09:18

Sample ID: 11J0522-02

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	10/14/11	10/17/11 11:58	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:58	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:58	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:58	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:58	PJG
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:58	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:58	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:58	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 11:58	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	108	30-150		10/17/11 11:58
Decachlorobiphenyl [2]	102	30-150		10/17/11 11:58
Tetrachloro-m-xylene [1]	114	30-150		10/17/11 11:58
Tetrachloro-m-xylene [2]	115	30-150		10/17/11 11:58

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11J0522

Date Received: 10/14/2011

Field Sample #: KGL-VW-048 | Sampled: 10/14/2011 09:35

Sample ID: 11J0522-03

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	10/14/11	10/17/11 12:11	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:11	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:11	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:11	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:11	PJG
Aroclor-1254 [1]	0.56	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:11	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:11	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:11	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:11	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	115	30-150		10/17/11 12:11
Decachlorobiphenyl [2]	109	30-150		10/17/11 12:11
Tetrachloro-m-xylene [1]	122	30-150		10/17/11 12:11
Tetrachloro-m-xylene [2]	121	30-150		10/17/11 12:11

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11J0522

Date Received: 10/14/2011

Field Sample #: KGL-VW-047 | Sampled: 10/14/2011 09:40

Sample ID: 11J0522-04

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	10/14/11	10/17/11 12:24	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:24	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:24	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:24	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:24	PJG
Aroclor-1254 [1]	1.5	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:24	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:24	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:24	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/14/11	10/17/11 12:24	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	108	30-150		10/17/11 12:24
Decachlorobiphenyl [2]	102	30-150		10/17/11 12:24
Tetrachloro-m-xylene [1]	115	30-150		10/17/11 12:24
Tetrachloro-m-xylene [2]	115	30-150		10/17/11 12:24

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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
11J0522-01 [KGL-VW-045]	B039208	1.00	10.0	10/14/11
11J0522-02 [KGL-VW-046]	B039208	1.00	10.0	10/14/11
11J0522-03 [KGL-VW-048]	B039208	1.00	10.0	10/14/11
11J0522-04 [KGL-VW-047]	B039208	1.00	10.0	10/14/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039208 - SW-846 3540C										
Blank (B039208-BLK1)				Prepared: 10/14/11 Analyzed: 10/17/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.21*		µg/Wipe	2.00		110	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.12*		µg/Wipe	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	*2.36*		µg/Wipe	2.00		118	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.39*		µg/Wipe	2.00		119	30-150			
LCS (B039208-BS1)				Prepared: 10/14/11 Analyzed: 10/17/11						
Aroclor-1016	0.60	0.20	µg/Wipe	0.500		120	40-140			
Aroclor-1016 [2C]	0.59	0.20	µg/Wipe	0.500		118	40-140			
Aroclor-1260	0.56	0.20	µg/Wipe	0.500		113	40-140			
Aroclor-1260 [2C]	0.55	0.20	µg/Wipe	0.500		111	40-140			
Surrogate: Decachlorobiphenyl	*2.21*		µg/Wipe	2.00		110	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.12*		µg/Wipe	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	*2.35*		µg/Wipe	2.00		118	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.41*		µg/Wipe	2.00		121	30-150			
LCS Dup (B039208-BSD1)				Prepared: 10/14/11 Analyzed: 10/17/11						
Aroclor-1016	0.63	0.20	µg/Wipe	0.500		127	40-140	5.90	30	
Aroclor-1016 [2C]	0.60	0.20	µg/Wipe	0.500		121	40-140	2.37	30	
Aroclor-1260	0.58	0.20	µg/Wipe	0.500		117	40-140	3.29	30	
Aroclor-1260 [2C]	0.58	0.20	µg/Wipe	0.500		115	40-140	3.70	30	
Surrogate: Decachlorobiphenyl	*2.24*		µg/Wipe	2.00		112	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.15*		µg/Wipe	2.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	*2.34*		µg/Wipe	2.00		117	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.39*		µg/Wipe	2.00		120	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	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

11J0522

Company Name: WOODARD + CURRAN
Address: 35 NEW ENGLAND BUSINESS PARK, ANDOVER, MA
Attention: G. Franklin, J Hamel
Project Location: YALE - KLINE GEOLAB
Sampled By: Kim Rinard (413) 531-4455

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

Telephone:
Project # 224415
Client PO#

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs by EPA 8082 w/ Soxhlet		# of Containers / ** Preservation / ***Container Code
-01	KGL-VW-045	10/14/11	0915			WI	U	X	CMU	
-02	KGL-VW-046	↓	0918			WI	U	X	BRZU	
-03	KGL-VW-048		0935			WI	U	X	CMU	
-04	KGL-VW-047		0940			WI	U	X	BRZU	
				KAR						
						10/14/11				

Comments: PCB's by EPA SW-846 ~~8082~~ 8082 w/ 3540C Soxhlet prep
RL ≤ 1 mg/kg (Bulk) ⊛RL is 1ug per wipe⊛

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

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

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

Relinquished by: (signature)	Date/Time:
K. Rinard	1615 10/14/11
Received by: (signature) 2.5°	Date/Time: 1615 10/14/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut: 1ug per wipe
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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Sample Receipt Checklist

CLIENT NAME: Woodard & Curran RECEIVED BY: CEC DATE: 10/14/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 2.5 C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 14

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	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:

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

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

Doc# 277

Rev. 1 May 2

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October 18, 2011

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

Project Location: Yale - Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0340

Enclosed are results of analyses for samples received by the laboratory on October 11, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 10/18/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0340

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

PROJECT LOCATION: Yale - Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VBR-040	11J0340-01	Solid		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

REVISED REPORT - 10/18/2011 - Sample matrix revised per clients request.

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

B039050-MS1, B039050-MSD1

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

Analyte & Samples(s) Qualified:

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

11J0340-01[KGL-VBR-040]

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

Meghan E. Kelley
Project Chemist

con-test® ANALYTICAL LABORATORY

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

Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J0340

Date Received: 10/11/2011

Field Sample #: KGL-VBR-040 | Sampled: 10/6/2011 15:15

Sample ID: 11J0340-01

Sample Matrix: Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.3	mg/Kg	50		SW-846 8082A	10/12/11	10/14/11 11:08	PJG
Aroclor-1221 [1]	ND	4.3	mg/Kg	50		SW-846 8082A	10/12/11	10/14/11 11:08	PJG
Aroclor-1232 [1]	ND	4.3	mg/Kg	50		SW-846 8082A	10/12/11	10/14/11 11:08	PJG
Aroclor-1242 [1]	ND	4.3	mg/Kg	50		SW-846 8082A	10/12/11	10/14/11 11:08	PJG
Aroclor-1248 [1]	ND	4.3	mg/Kg	50		SW-846 8082A	10/12/11	10/14/11 11:08	PJG
Aroclor-1254 [1]	33	4.3	mg/Kg	50		SW-846 8082A	10/12/11	10/14/11 11:08	PJG
Aroclor-1260 [1]	ND	4.3	mg/Kg	50		SW-846 8082A	10/12/11	10/14/11 11:08	PJG
Aroclor-1262 [1]	ND	4.3	mg/Kg	50		SW-846 8082A	10/12/11	10/14/11 11:08	PJG
Aroclor-1268 [1]	ND	4.3	mg/Kg	50		SW-846 8082A	10/12/11	10/14/11 11:08	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/14/11 11:08
Decachlorobiphenyl [2]	*	30-150	S-01	10/14/11 11:08
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/14/11 11:08
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/14/11 11:08

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0340-01 [KGL-VBR-040]	B039050	2.30	10.0	10/12/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039050 - SW-846 3540C										
Blank (B039050-BLK1)				Prepared: 10/12/11 Analyzed: 10/13/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.932*		mg/Kg	1.00		93.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.972*		mg/Kg	1.00		97.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.921*		mg/Kg	1.00		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.932*		mg/Kg	1.00		93.2	30-150			
LCS (B039050-BS1)				Prepared: 10/12/11 Analyzed: 10/13/11						
Aroclor-1016	0.26	0.10	mg/Kg	0.250		102	40-140			
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		116	40-140			
Aroclor-1260	0.24	0.10	mg/Kg	0.250		97.1	40-140			
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		117	40-140			
Surrogate: Decachlorobiphenyl	*0.978*		mg/Kg	1.00		97.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.02*		mg/Kg	1.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.957*		mg/Kg	1.00		95.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.966*		mg/Kg	1.00		96.6	30-150			
LCS Dup (B039050-BSD1)				Prepared: 10/12/11 Analyzed: 10/13/11						
Aroclor-1016	0.25	0.10	mg/Kg	0.250		100	40-140	1.72	30	
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		115	40-140	0.393	30	
Aroclor-1260	0.23	0.10	mg/Kg	0.250		93.6	40-140	3.67	30	
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		116	40-140	0.465	30	
Surrogate: Decachlorobiphenyl	*0.930*		mg/Kg	1.00		93.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.975*		mg/Kg	1.00		97.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.936*		mg/Kg	1.00		93.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.957*		mg/Kg	1.00		95.7	30-150			

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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 B039050 - SW-846 3540C											
Matrix Spike (B039050-MS1)		**Source: 11J0340-01**		Prepared: 10/12/11 Analyzed: 10/13/11							
Aroclor-1016	0.36	0.10	mg/Kg	0.250	0.0	**146**	*	40-140			MS-21
Aroclor-1016 [2C]	5.2	0.10	mg/Kg	0.250	0.0	**2090**	*	40-140			MS-21
Aroclor-1260	5.0	0.10	mg/Kg	0.250	0.0	**2000**	*	40-140			MS-21
Aroclor-1260 [2C]	6.4	0.10	mg/Kg	0.250	0.0	**2550**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.867*		mg/Kg	1.00		86.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.937*		mg/Kg	1.00		93.7		30-150			
Surrogate: Tetrachloro-m-xylene	*0.936*		mg/Kg	1.00		93.6		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.971*		mg/Kg	1.00		97.1		30-150			
Matrix Spike Dup (B039050-MSD1)		**Source: 11J0340-01**		Prepared: 10/12/11 Analyzed: 10/13/11							
Aroclor-1016	0.34	0.087	mg/Kg	0.217	0.0	**158**	*	40-140	6.26	50	MS-21
Aroclor-1016 [2C]	5.3	0.087	mg/Kg	0.217	0.0	**2430**	*	40-140	1.15	50	MS-21
Aroclor-1260	5.3	0.087	mg/Kg	0.217	0.0	**2460**	*	40-140	6.78	50	MS-21
Aroclor-1260 [2C]	6.6	0.087	mg/Kg	0.217	0.0	**3060**	*	40-140	4.12	50	MS-21
Surrogate: Decachlorobiphenyl	*0.831*		mg/Kg	0.870		95.5		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.892*		mg/Kg	0.870		103		30-150			
Surrogate: Tetrachloro-m-xylene	*0.876*		mg/Kg	0.870		101		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.880*		mg/Kg	0.870		101		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.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

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CERTIFICATIONS

Certified Analyses included in this Report

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

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

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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Email: info@contestlabs.com
www.contestlabs.com
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East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

11J0340

Page 1 of 1

* CONTACT GEORGE FRANKLIN FOR TAT

Company Name: Woodard + Curran
Address: 35 New England Bus. Park, Andover, MA
Attention: G. Franklin, J Harmel, K. Rinaldo
Project Location: Yale - Kline Geo Lab
Sampled By: Kim Rinaldo (413) 531-4455

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

Telephone:
Project # 224415
Client PO#

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

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB's by EPA 8082 w/Soxhlet	
								# of Containers	1
								** Preservation	Ø (ICED)
								***Container Code	G
-01	KGL-VBR-040	10/6/11	1515		✓	R	U		✓

ANALYSIS REQUESTED

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Comments:
RL = 1 mg/kg
8082 by Soxhlet

Emails - jharmel@woodardcurran.com
gfranklin@ " " "
krinaldo " " "

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. Rinaldo	10/11/11 1630
Received by: (signature) 3.1°C	Date/Time: 10/11/11 1630
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut: RL = 1mg/Kg
Other:

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

R = Brownstone

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.

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: CEC DATE: 10

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 3.2

5) Are there Dissolved samples for the lab to filter? Yes No
Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

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

Laboratory Comments:

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

Time and Date Frozen:

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

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

Doc# 277
Rev. 1 May 2011

11J0340-01 KGL-VBR-040

Analyte	Results		%RPD
Aroclor-1254	33	32.15326	2.6

B039050-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	0.932	0.971915	4.19
Tetrachloro-m-xylene	0.921	0.931615	1.15

B039050-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.26	0.28935	10.7
Aroclor-1260	0.24	0.2922	19.6
Surrogates			
Decachlorobiphenyl	0.978	1.019215	4.13
Tetrachloro-m-xylene	0.957	0.9665	0.988

B039050-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.25	0.288215	14.2
Aroclor-1260	0.23	0.290845	23.4
Surrogates			
Tetrachloro-m-xylene	0.936	0.95687	2.21
Decachlorobiphenyl	0.930	0.9751	4.73

B039050-MS1 Matrix Spike

Analyte	Results		%RPD
Aroclor-1016	0.36	5.22801	174
Aroclor-1260	5.0	6.373155	24.1
Surrogates			
Decachlorobiphenyl	0.867	0.93748	7.81
Tetrachloro-m-xylene	0.936	0.970535	3.62

B039050-MSD1 Matrix Spike Dup

Analyte	Results		%RPD
Aroclor-1016	0.34	5.288735	176
Aroclor-1260	5.3	6.641465	22.5
Surrogates			
Tetrachloro-m-xylene	0.876	0.8796218	0.413
Decachlorobiphenyl	0.831	0.8924522	7.13

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October 19, 2011

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

Project Location: Yale - Kline Geo Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0549

Enclosed are results of analyses for samples received by the laboratory on October 17, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 10/19/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0549

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

PROJECT LOCATION: Yale - Kline Geo Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-049	11J0549-01	Wipe		SW-846 8082A	
KGL-VWB-050	11J0549-02	Wipe		SW-846 8082A	
KGL-VWC-051	11J0549-03	Wipe		SW-846 8082A	
KGL-VWB-052	11J0549-04	Wipe		SW-846 8082A	
KGL-VWB-054	11J0549-06	Wipe		SW-846 8082A	
KGL-VWC-055	11J0549-07	Wipe		SW-846 8082A	
KGL-VWB-056	11J0549-08	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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Project Location: Yale - Kline Geo Lab | Sample Description: | Work Order: 11J0549

Date Received: 10/17/2011

Field Sample #: KGL-VWC-049 | Sampled: 10/17/2011 10:12

Sample ID: 11J0549-01

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	10/17/11	10/18/11 14:18	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:18	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:18	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:18	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:18	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:18	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:18	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:18	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:18	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	104	30-150		10/18/11 14:18
Decachlorobiphenyl [2]	108	30-150		10/18/11 14:18
Tetrachloro-m-xylene [1]	110	30-150		10/18/11 14:18
Tetrachloro-m-xylene [2]	107	30-150		10/18/11 14:18

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Project Location: Yale - Kline Geo Lab | Sample Description: | Work Order: 11J0549

Date Received: 10/17/2011

Field Sample #: KGL-VWB-050 | Sampled: 10/17/2011 10:15

Sample ID: 11J0549-02

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	10/17/11	10/18/11 14:32	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:32	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:32	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:32	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:32	JMB
Aroclor-1254 [1]	0.85	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:32	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:32	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:32	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:32	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		10/18/11 14:32
Decachlorobiphenyl [2]	107	30-150		10/18/11 14:32
Tetrachloro-m-xylene [1]	107	30-150		10/18/11 14:32
Tetrachloro-m-xylene [2]	105	30-150		10/18/11 14:32

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Project Location: Yale - Kline Geo Lab
Sample Description:
Work Order: 11J0549

Date Received: 10/17/2011

Field Sample #: KGL-VWC-051
Sampled: 10/17/2011 10:30

Sample ID: 11J0549-03

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	10/17/11	10/18/11 14:47	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:47	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:47	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:47	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:47	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:47	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:47	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:47	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 14:47	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	103	30-150		10/18/11 14:47
Decachlorobiphenyl [2]	109	30-150		10/18/11 14:47
Tetrachloro-m-xylene [1]	110	30-150		10/18/11 14:47
Tetrachloro-m-xylene [2]	107	30-150		10/18/11 14:47

con-test® ANALYTICAL LABORATORY

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

Project Location: Yale - Kline Geo Lab | Sample Description: | Work Order: 11J0549

Date Received: 10/17/2011

Field Sample #: KGL-VWB-052 | Sampled: 10/17/2011 10:35

Sample ID: 11J0549-04

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	10/17/11	10/18/11 15:01	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:01	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:01	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:01	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:01	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:01	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:01	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:01	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:01	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	102	30-150		10/18/11 15:01
Decachlorobiphenyl [2]	108	30-150		10/18/11 15:01
Tetrachloro-m-xylene [1]	108	30-150		10/18/11 15:01
Tetrachloro-m-xylene [2]	107	30-150		10/18/11 15:01

con-test® ANALYTICAL LABORATORY

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

Project Location: Yale - Kline Geo Lab | Sample Description: | Work Order: 11J0549

Date Received: 10/17/2011

Field Sample #: KGL-VWB-054 | Sampled: 10/17/2011 11:05

Sample ID: 11J0549-06

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	10/17/11	10/18/11 15:15	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:15	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:15	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:15	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:15	JMB
Aroclor-1254 [2]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:15	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:15	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:15	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:15	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	131	30-150		10/18/11 15:15
Decachlorobiphenyl [2]	137	30-150		10/18/11 15:15
Tetrachloro-m-xylene [1]	144	30-150		10/18/11 15:15
Tetrachloro-m-xylene [2]	147	30-150		10/18/11 15:15

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

Project Location: Yale - Kline Geo Lab
Sample Description:
Work Order: 11J0549

Date Received: 10/17/2011

Field Sample #: KGL-VWC-055
Sampled: 10/17/2011 11:20

Sample ID: 11J0549-07

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	10/17/11	10/18/11 15:29	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:29	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:29	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:29	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:29	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:29	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:29	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:29	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:29	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		10/18/11 15:29
Decachlorobiphenyl [2]	108	30-150		10/18/11 15:29
Tetrachloro-m-xylene [1]	106	30-150		10/18/11 15:29
Tetrachloro-m-xylene [2]	106	30-150		10/18/11 15:29

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Project Location: Yale - Kline Geo Lab | Sample Description: | Work Order: 11J0549

Date Received: 10/17/2011

Field Sample #: KGL-VWB-056 | Sampled: 10/17/2011 11:25

Sample ID: 11J0549-08

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	10/17/11	10/18/11 15:43	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:43	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:43	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:43	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:43	JMB
Aroclor-1254 [2]	0.49	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:43	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:43	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:43	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/17/11	10/18/11 15:43	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	104	30-150		10/18/11 15:43
Decachlorobiphenyl [2]	111	30-150		10/18/11 15:43
Tetrachloro-m-xylene [1]	106	30-150		10/18/11 15:43
Tetrachloro-m-xylene [2]	105	30-150		10/18/11 15:43

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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
11J0549-01 [KGL-VWC-049]	B039297	1.00	10.0	10/17/11
11J0549-02 [KGL-VWB-050]	B039297	1.00	10.0	10/17/11
11J0549-03 [KGL-VWC-051]	B039297	1.00	10.0	10/17/11
11J0549-04 [KGL-VWB-052]	B039297	1.00	10.0	10/17/11
11J0549-06 [KGL-VWB-054]	B039297	1.00	10.0	10/17/11
11J0549-07 [KGL-VWC-055]	B039297	1.00	10.0	10/17/11
11J0549-08 [KGL-VWB-056]	B039297	1.00	10.0	10/17/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039297 - SW-846 3540C										
Blank (B039297-BLK1)				Prepared: 10/17/11 Analyzed: 10/18/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.67*		µg/Wipe	2.00		83.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.67*		µg/Wipe	2.00		83.5	30-150			
Surrogate: Tetrachloro-m-xylene	*2.23*		µg/Wipe	2.00		111	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.21*		µg/Wipe	2.00		111	30-150			
LCS (B039297-BS1)				Prepared: 10/17/11 Analyzed: 10/18/11						
Aroclor-1016	0.58	0.20	µg/Wipe	0.500		115	40-140			
Aroclor-1016 [2C]	0.57	0.20	µg/Wipe	0.500		115	40-140			
Aroclor-1260	0.54	0.20	µg/Wipe	0.500		109	40-140			
Aroclor-1260 [2C]	0.57	0.20	µg/Wipe	0.500		114	40-140			
Surrogate: Decachlorobiphenyl	*2.08*		µg/Wipe	2.00		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.09*		µg/Wipe	2.00		104	30-150			
Surrogate: Tetrachloro-m-xylene	*2.17*		µg/Wipe	2.00		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.10*		µg/Wipe	2.00		105	30-150			
LCS Dup (B039297-BSD1)				Prepared: 10/17/11 Analyzed: 10/18/11						
Aroclor-1016	0.59	0.20	µg/Wipe	0.500		118	40-140	2.40	30	
Aroclor-1016 [2C]	0.60	0.20	µg/Wipe	0.500		121	40-140	4.80	30	
Aroclor-1260	0.55	0.20	µg/Wipe	0.500		111	40-140	1.75	30	
Aroclor-1260 [2C]	0.59	0.20	µg/Wipe	0.500		118	40-140	3.63	30	
Surrogate: Decachlorobiphenyl	*2.13*		µg/Wipe	2.00		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.16*		µg/Wipe	2.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	*2.23*		µg/Wipe	2.00		111	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.17*		µg/Wipe	2.00		109	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	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

11J0549

Company Name: Woodard + Curran
Address: 35 New England Bus Park
Andover, MA
Attention: G. Franklin, J Hamel
Project Location: Yale - Kline Geo Lab
Sampled By: Kim Rinard (413)531-4455

Project Proposal Provided? (for billing purposes)
✓ yes 20110921 proposal date

Telephone:
Project # 224415
Client PO#

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB's by EPA 8082/3540C	
01	KGL-VWC-049	10/17/11	1012			WI	U	✓	
02	KGL-VWB-050	↓	1015			↓	↓	✓	
03	KGL-VWC-051	↓	1030			↓	↓	✓	
04	KGL-VWB-052	↓	1035			↓	↓	✓	
05	KGL-VWC-053	10/17/11	1100			WI	U		LAB DO NOT ANALYZE!
06	KGL-VWB-054	↓	1105			↓	↓	✓	
07	KGL-VWC-055	↓	1120			↓	↓	✓	
08	KGL-VWB-056	10/17/11	1125			WI	U	✓	
			KAN						
									10/17/11

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

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Comments: PCB's by 8082 (EPA) w/ 3540C Soxhlet prep RL @ 1ug per wipe

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:
KAN K. Rinard	10/17/11 1615
Received by: (signature) 6°C Menissee Kopez	Date/Time: 1615 10/17/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: RL @ 1ug per 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.

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:** mlk **DATE:** 10/17/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 6°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: log-in

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

Containers received at Con-Test

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

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May 2011

11J0549-01 KGL-VWC-049

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	2.19	2.13555	2.52
Decachlorobiphenyl	2.07	2.16543	4.51

11J0549-02 KGL-VWB-050

Analyte		Results	%RPD
Aroclor-1254	0.85	0.83795	1.43
Surrogates			
Decachlorobiphenyl	2.03	2.14827	5.66
Tetrachloro-m-xylene	2.13	2.09287	1.76

11J0549-03 KGL-VWC-051

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	2.07	2.18966	5.62
Tetrachloro-m-xylene	2.20	2.13247	3.12

11J0549-04 KGL-VWB-052

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	2.03	2.16139	6.27
Tetrachloro-m-xylene	2.17	2.1354	1.61

11J0549-06 KGL-VWB-054

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	2.61	2.73546	4.69
Tetrachloro-m-xylene	2.88	2.93983	2.06

11J0549-07 KGL-VWC-055

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	2.12	2.12084	0.0396
Decachlorobiphenyl	2.00	2.15082	7.27

11J0549-08 KGL-VWB-056

Analyte		Results	%RPD
Aroclor-1254 [2C]	0.49	0.47944	2.18
Surrogates			
Decachlorobiphenyl	2.08	2.22089	6.55
Tetrachloro-m-xylene	2.12	2.10303	0.804

B039297-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.67	1.6702	0.012
Tetrachloro-m-xylene	2.23	2.21217	0.803

B039297-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	0.58	0.57429	0.989
Aroclor-1260	0.54	0.57014	5.43
Surrogates			
Decachlorobiphenyl	2.08	2.08801	0.384
Tetrachloro-m-xylene	2.17	2.09918	3.32

B039297-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	0.59	0.60251	2.1
Aroclor-1260	0.55	0.5912	7.22

Surrogates			
Tetrachloro-m-xylene	2.23	2.17005	2.72
Decachlorobiphenyl	2.13	2.15701	1.26

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October 26, 2011

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

Project Location: Yale-Kline Geo
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0652

Enclosed are results of analyses for samples received by the laboratory on October 19, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

REPORT DATE: 10/26/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0652

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

PROJECT LOCATION: Yale-Kline Geo

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VBB-059	11J0652-01	Product/Solid		SW-846 8082A	
KGL-VBQ-060	11J0652-02	Water		SW-846 8082A	
KGL-VBB-061	11J0652-03	Product/Solid		SW-846 8082A	
KGL-VBB-062	11J0652-04	Product/Solid		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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11J0652

Date Received: 10/19/2011

Field Sample #: KGL-VBB-059 | Sampled: 10/18/2011 15:45

Sample ID: 11J0652-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 2:59	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 2:59	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 2:59	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 2:59	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 2:59	JMB
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 2:59	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 2:59	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 2:59	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 2:59	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	103	30-150		10/22/11 2:59
Decachlorobiphenyl [2]	99.2	30-150		10/22/11 2:59
Tetrachloro-m-xylene [1]	96.1	30-150		10/22/11 2:59
Tetrachloro-m-xylene [2]	96.8	30-150		10/22/11 2:59

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Project Location: Yale-Kline Geo
Sample Description:
Work Order: 11J0652

Date Received: 10/19/2011

Field Sample #: KGL-VBQ-060
Sampled: 10/18/2011 17:30

Sample ID: 11J0652-02

Sample Matrix: Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/21/11	10/22/11 12:55	JMB
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/21/11	10/22/11 12:55	JMB
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/21/11	10/22/11 12:55	JMB
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/21/11	10/22/11 12:55	JMB
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/21/11	10/22/11 12:55	JMB
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/21/11	10/22/11 12:55	JMB
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/21/11	10/22/11 12:55	JMB
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/21/11	10/22/11 12:55	JMB
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/21/11	10/22/11 12:55	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	45.5	30-150		10/22/11 12:55
Decachlorobiphenyl [2]	44.4	30-150		10/22/11 12:55
Tetrachloro-m-xylene [1]	79.3	30-150		10/22/11 12:55
Tetrachloro-m-xylene [2]	81.2	30-150		10/22/11 12:55

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11J0652

Date Received: 10/19/2011

Field Sample #: KGL-VBB-061 | Sampled: 10/18/2011 16:30

Sample ID: 11J0652-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:12	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:12	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:12	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:12	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:12	JMB
Aroclor-1254 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:12	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:12	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:12	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:12	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	102	30-150		10/22/11 3:12
Decachlorobiphenyl [2]	99.1	30-150		10/22/11 3:12
Tetrachloro-m-xylene [1]	101	30-150		10/22/11 3:12
Tetrachloro-m-xylene [2]	101	30-150		10/22/11 3:12

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Project Location: Yale-Kline Geo
Sample Description:
Work Order: 11J0652

Date Received: 10/19/2011

Field Sample #: KGL-VBB-062
Sampled: 10/18/2011 16:50

Sample ID: 11J0652-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:25	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:25	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:25	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:25	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:25	JMB
Aroclor-1254 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:25	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:25	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:25	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/20/11	10/22/11 3:25	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	102	30-150		10/22/11 3:25
Decachlorobiphenyl [2]	98.4	30-150		10/22/11 3:25
Tetrachloro-m-xylene [1]	97.5	30-150		10/22/11 3:25
Tetrachloro-m-xylene [2]	98.3	30-150		10/22/11 3:25

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0652-01 [KGL-VBB-059]	B039580	2.00	10.0	10/20/11
11J0652-03 [KGL-VBB-061]	B039580	2.10	10.0	10/20/11
11J0652-04 [KGL-VBB-062]	B039580	2.10	10.0	10/20/11

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11J0652-02 [KGL-VBQ-060]	B039670	1000	10.0	10/21/11

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039670 - SW-846 3510C										
Blank (B039670-BLK1)				Prepared: 10/21/11 Analyzed: 10/22/11						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*1.44*		µg/L	2.00		72.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.38*		µg/L	2.00		69.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.48*		µg/L	2.00		74.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.53*		µg/L	2.00		76.3	30-150			
LCS (B039670-BS1)				Prepared: 10/21/11 Analyzed: 10/22/11						
Aroclor-1016	0.46	0.20	µg/L	0.500		91.0	40-140			
Aroclor-1016 [2C]	0.44	0.20	µg/L	0.500		88.1	40-140			
Aroclor-1260	0.45	0.20	µg/L	0.500		89.4	40-140			
Aroclor-1260 [2C]	0.44	0.20	µg/L	0.500		87.1	40-140			
Surrogate: Decachlorobiphenyl	*1.70*		µg/L	2.00		85.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.63*		µg/L	2.00		81.3	30-150			
Surrogate: Tetrachloro-m-xylene	*1.52*		µg/L	2.00		76.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.57*		µg/L	2.00		78.4	30-150			
LCS Dup (B039670-BSD1)				Prepared: 10/21/11 Analyzed: 10/22/11						
Aroclor-1016	0.43	0.20	µg/L	0.500		86.2	40-140	5.53	20	
Aroclor-1016 [2C]	0.42	0.20	µg/L	0.500		83.4	40-140	5.50	20	
Aroclor-1260	0.42	0.20	µg/L	0.500		84.2	40-140	6.06	20	
Aroclor-1260 [2C]	0.40	0.20	µg/L	0.500		80.8	40-140	7.53	20	
Surrogate: Decachlorobiphenyl	*1.29*		µg/L	2.00		64.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.24*		µg/L	2.00		62.0	30-150			
Surrogate: Tetrachloro-m-xylene	*1.44*		µg/L	2.00		71.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.49*		µg/L	2.00		74.3	30-150			

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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 B039580 - SW-846 3540C										
Blank (B039580-BLK1)				Prepared: 10/20/11 Analyzed: 10/22/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*1.02*		mg/Kg	1.00		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.993*		mg/Kg	1.00		99.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.998*		mg/Kg	1.00		99.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.00*		mg/Kg	1.00		100	30-150			
LCS (B039580-BS1)				Prepared: 10/20/11 Analyzed: 10/23/11						
Aroclor-1016	0.29	0.10	mg/Kg	0.250		117	40-140			
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		115	40-140			
Aroclor-1260	0.27	0.10	mg/Kg	0.250		107	40-140			
Aroclor-1260 [2C]	0.30	0.10	mg/Kg	0.250		121	40-140			
Surrogate: Decachlorobiphenyl	*1.06*		mg/Kg	1.00		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.12*		mg/Kg	1.00		112	30-150			
Surrogate: Tetrachloro-m-xylene	*1.09*		mg/Kg	1.00		109	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.10*		mg/Kg	1.00		110	30-150			
LCS Dup (B039580-BSD1)				Prepared: 10/20/11 Analyzed: 10/22/11						
Aroclor-1016	0.29	0.10	mg/Kg	0.250		116	40-140	1.32	30	
Aroclor-1016 [2C]	0.27	0.10	mg/Kg	0.250		106	40-140	8.19	30	
Aroclor-1260	0.26	0.10	mg/Kg	0.250		106	40-140	1.76	30	
Aroclor-1260 [2C]	0.25	0.10	mg/Kg	0.250		101	40-140	18.7	30	
Surrogate: Decachlorobiphenyl	*0.997*		mg/Kg	1.00		99.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.970*		mg/Kg	1.00		97.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.969*		mg/Kg	1.00		96.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.983*		mg/Kg	1.00		98.3	30-150			

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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 B039580 - SW-846 3540C										
Matrix Spike (B039580-MS1)		**Source: 11J0652-01**		Prepared: 10/20/11 Analyzed: 10/22/11						
Aroclor-1016	0.29	0.10	mg/Kg	0.250	0.0	116	40-140			
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250	0.0	117	40-140			
Aroclor-1260	0.27	0.10	mg/Kg	0.250	0.0	109	40-140			
Aroclor-1260 [2C]	0.27	0.10	mg/Kg	0.250	0.0	107	40-140			
Surrogate: Decachlorobiphenyl	*1.04*		mg/Kg	1.00		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.00*		mg/Kg	1.00		100	30-150			
Surrogate: Tetrachloro-m-xylene	*1.03*		mg/Kg	1.00		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.04*		mg/Kg	1.00		104	30-150			
Matrix Spike Dup (B039580-MSD1)		**Source: 11J0652-01**		Prepared: 10/20/11 Analyzed: 10/22/11						
Aroclor-1016	0.29	0.095	mg/Kg	0.238	0.0	121	40-140	0.0610	50	
Aroclor-1016 [2C]	0.29	0.095	mg/Kg	0.238	0.0	121	40-140	1.86	50	
Aroclor-1260	0.26	0.095	mg/Kg	0.238	0.0	111	40-140	3.05	50	
Aroclor-1260 [2C]	0.26	0.095	mg/Kg	0.238	0.0	109	40-140	2.44	50	
Surrogate: Decachlorobiphenyl	*1.01*		mg/Kg	0.952		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.986*		mg/Kg	0.952		104	30-150			
Surrogate: Tetrachloro-m-xylene	*1.01*		mg/Kg	0.952		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.03*		mg/Kg	0.952		108	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
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC
Aroclor-1016 [2C]	CT,NH,NY,ME,NC
Aroclor-1221	CT,NH,NY,ME,NC
Aroclor-1221 [2C]	CT,NH,NY,ME,NC
Aroclor-1232	CT,NH,NY,ME,NC
Aroclor-1232 [2C]	CT,NH,NY,ME,NC
Aroclor-1242	CT,NH,NY,ME,NC
Aroclor-1242 [2C]	CT,NH,NY,ME,NC
Aroclor-1248	CT,NH,NY,ME,NC
Aroclor-1248 [2C]	CT,NH,NY,ME,NC
Aroclor-1254	CT,NH,NY,ME,NC
Aroclor-1254 [2C]	CT,NH,NY,ME,NC
Aroclor-1260	CT,NH,NY,ME,NC
Aroclor-1260 [2C]	CT,NH,NY,ME,NC
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,RI,NC,ME
Aroclor-1016 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1221	CT,NH,NY,RI,NC,ME
Aroclor-1221 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1232	CT,NH,NY,RI,NC,ME
Aroclor-1232 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1242	CT,NH,NY,RI,NC,ME
Aroclor-1242 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1248	CT,NH,NY,RI,NC,ME
Aroclor-1248 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1254	CT,NH,NY,RI,NC,ME
Aroclor-1254 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1260	CT,NH,NY,RI,NC,ME
Aroclor-1260 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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Fax: 413-525-6405
Email: info@contestlabs.com
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CHAIN OF CUSTODY RECORD

11J0652

Page 1 of 1

Company Name: Woodard + Curran
Address: 35 New England Business Park, Andover, MA
Attention: G. Franklin, J Hamel
Project Location: Yale - Kline GRD
Sampled By: Kim Rinard (413) 531-4455

Project Proposal Provided? (for billing purposes)
○ yes 20110921 proposal date

Telephone:
Project # 224415
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"

ANALYSIS REQUESTED: PVOCs by EPA 8082/3540C

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	PVOCs by EPA 8082/3540C	# of Containers (I)	** Preservation (H)	***Container Code (G)
	~~KGL-VBR-057~~	~~10/18/11~~	~~1515~~			~~S~~	~~U~~		~~LAB - DO NOT ANALYZE~~		
	~~KGL-VBD-058~~		~~1530~~			~~S~~	~~U~~		~~LAB - DO NOT ANALYZE~~		
01	KGL-VBB-059		1545			S	U	✓			
02	KGL-VBQ-060		1730			LW	U	✓			
03	KGL-VBB-061		1630			S	U	✓			
04	KGL-VBB-062		1650			S	U	✓			

Comments: RL ≤ 1 mg/kg * Do not analyze 057, 058 per G. Franklin (not submitted)

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

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Relinquished by: (signature)	Date/Time:
K. Rinard to W+C office	10/19/11 0815
Received by: (signature) (on ice)	Date/Time: 1120 10-19-11
Relinquished by: (signature)	Date/Time: 1844 10-19-11
Received by: (signature) 4.6°C	Date/Time: 10/19/11 18:45

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5day
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: RL 1mg/kg

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

CALLED 10/19/11 @ 0745 - FRANK - FAX RESULTS PLUS TODAY WED initial.

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F: 413-525-6405
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Sample Receipt Checklist

CLIENT NAME: Woodward and Luran RECEIVED BY: C.C.S. DATE: 10/19/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 4.8°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored:

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	1	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	3
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May 2011

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November 1, 2011

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

Project Location: Yale - Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0878

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

Sincerely,

Meghan E. Kelley
Project Manager

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

REPORT DATE: 11/1/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0878

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

PROJECT LOCATION: Yale - Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-067	11J0878-01	Wipe		SW-846 8082A	
KGL-VWB-068	11J0878-02	Wipe		SW-846 8082A	
KGL-VWC-069	11J0878-03	Wipe		SW-846 8082A	
KGL-VWB-070	11J0878-04	Wipe		SW-846 8082A	
KGL-VW-071	11J0878-05	Wipe		SW-846 8082A	
KGL-VW-072	11J0878-06	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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

Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J0878

Date Received: 10/24/2011

Field Sample #: KGL-VWC-067
Sampled: 10/22/2011 14:40

Sample ID: 11J0878-01

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	10/25/11	10/29/11 13:23	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:23	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:23	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:23	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:23	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:23	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:23	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:23	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:23	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	103	30-150		10/29/11 13:23
Decachlorobiphenyl [2]	101	30-150		10/29/11 13:23
Tetrachloro-m-xylene [1]	101	30-150		10/29/11 13:23
Tetrachloro-m-xylene [2]	95.6	30-150		10/29/11 13:23

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J0878

Date Received: 10/24/2011

Field Sample #: KGL-VWB-068 | Sampled: 10/22/2011 14:45

Sample ID: 11J0878-02

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	10/25/11	10/29/11 13:36	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:36	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:36	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:36	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:36	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:36	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:36	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:36	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:36	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	98.3	30-150		10/29/11 13:36
Decachlorobiphenyl [2]	98.0	30-150		10/29/11 13:36
Tetrachloro-m-xylene [1]	95.3	30-150		10/29/11 13:36
Tetrachloro-m-xylene [2]	90.2	30-150		10/29/11 13:36

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J0878

Date Received: 10/24/2011

Field Sample #: KGL-VWC-069
Sampled: 10/24/2011 10:10

Sample ID: 11J0878-03

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	10/25/11	10/29/11 13:49	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:49	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:49	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:49	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:49	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:49	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:49	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:49	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 13:49	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		10/29/11 13:49
Decachlorobiphenyl [2]	100	30-150		10/29/11 13:49
Tetrachloro-m-xylene [1]	93.8	30-150		10/29/11 13:49
Tetrachloro-m-xylene [2]	89.2	30-150		10/29/11 13:49

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J0878

Date Received: 10/24/2011

Field Sample #: KGL-VWB-070 | Sampled: 10/24/2011 10:15

Sample ID: 11J0878-04

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	10/25/11	10/29/11 14:02	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:02	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:02	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:02	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:02	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:02	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:02	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:02	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:02	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	99.3	30-150		10/29/11 14:02
Decachlorobiphenyl [2]	99.1	30-150		10/29/11 14:02
Tetrachloro-m-xylene [1]	97.1	30-150		10/29/11 14:02
Tetrachloro-m-xylene [2]	92.1	30-150		10/29/11 14:02

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J0878

Date Received: 10/24/2011

Field Sample #: KGL-VW-071
Sampled: 10/24/2011 11:30

Sample ID: 11J0878-05

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	10/25/11	10/29/11 14:15	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:15	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:15	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:15	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:15	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:15	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:15	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:15	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:15	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	102	30-150		10/29/11 14:15
Decachlorobiphenyl [2]	99.5	30-150		10/29/11 14:15
Tetrachloro-m-xylene [1]	102	30-150		10/29/11 14:15
Tetrachloro-m-xylene [2]	97.0	30-150		10/29/11 14:15

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J0878

Date Received: 10/24/2011

Field Sample #: KGL-VW-072 | Sampled: 10/24/2011 11:55

Sample ID: 11J0878-06

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	10/25/11	10/29/11 14:28	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:28	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:28	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:28	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:28	JMB
Aroclor-1254 [1]	0.34	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:28	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:28	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:28	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/25/11	10/29/11 14:28	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.1	30-150		10/29/11 14:28
Decachlorobiphenyl [2]	93.1	30-150		10/29/11 14:28
Tetrachloro-m-xylene [1]	89.0	30-150		10/29/11 14:28
Tetrachloro-m-xylene [2]	90.0	30-150		10/29/11 14:28

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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
11J0878-01 [KGL-VWC-067]	B039887	1.00	10.0	10/25/11
11J0878-02 [KGL-VWB-068]	B039887	1.00	10.0	10/25/11
11J0878-03 [KGL-VWC-069]	B039887	1.00	10.0	10/25/11
11J0878-04 [KGL-VWB-070]	B039887	1.00	10.0	10/25/11
11J0878-05 [KGL-VW-071]	B039887	1.00	10.0	10/25/11
11J0878-06 [KGL-VW-072]	B039887	1.00	10.0	10/25/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039887 - SW-846 3540C										
Blank (B039887-BLK1)				Prepared: 10/25/11 Analyzed: 10/29/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.89*		µg/Wipe	2.00		94.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.85*		µg/Wipe	2.00		92.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.90*		µg/Wipe	2.00		94.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.85*		µg/Wipe	2.00		92.4	30-150			
LCS (B039887-BS1)				Prepared: 10/25/11 Analyzed: 10/29/11						
Aroclor-1016	0.55	0.20	µg/Wipe	0.500		111	40-140			
Aroclor-1016 [2C]	0.53	0.20	µg/Wipe	0.500		107	40-140			
Aroclor-1260	0.51	0.20	µg/Wipe	0.500		102	40-140			
Aroclor-1260 [2C]	0.54	0.20	µg/Wipe	0.500		109	40-140			
Surrogate: Decachlorobiphenyl	*1.96*		µg/Wipe	2.00		98.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.87*		µg/Wipe	2.00		93.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.97*		µg/Wipe	2.00		98.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.83*		µg/Wipe	2.00		91.7	30-150			
LCS Dup (B039887-BSD1)				Prepared: 10/25/11 Analyzed: 10/29/11						
Aroclor-1016	0.48	0.20	µg/Wipe	0.500		96.4	40-140	13.6	30	
Aroclor-1016 [2C]	0.56	0.20	µg/Wipe	0.500		113	40-140	5.46	30	
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		106	40-140	3.30	30	
Aroclor-1260 [2C]	0.57	0.20	µg/Wipe	0.500		114	40-140	4.74	30	
Surrogate: Decachlorobiphenyl	*1.97*		µg/Wipe	2.00		98.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.96*		µg/Wipe	2.00		98.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.94*		µg/Wipe	2.00		97.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.90*		µg/Wipe	2.00		95.2	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	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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CHAIN OF CUSTODY RECORD

39 Spruce Street
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Page 1 of 1

11J0878

Company Name: Woodard + Curran
Address: 35 New England Business Park, Andover, MA
Attention: J. Hamel, G. Franklin
Project Location: Yale - Kline Geo Lab
Sampled By: Kim Rinard (413) 531-4455

Project Proposal Provided? (for billing purposes)
☑ yes 20110921 proposal date

Telephone:
Project # 224415
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"

ANALYSIS REQUESTED: PCBs by 8082/3540C

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	# of Containers	** Preservation	***Container Code	PCBs by 8082/3540C
01	KGL-VWC-067	10/24/11	1440			WI	U				X
02	KGL-VWB-068	↓	1445			WI					X
03	KGL-VWC-069	10/24/11	1010			WI					X
04	KGL-VWB-070		1015			WI					X
05	KGL-VW -071		1130			WI	↓				X
06	KGL-VW -072	↓	1155			WI	U				X

Comments: PCBs by EPA 8082 w/ 3540c soxhlet extraction
RL's @ 1ug per wipe

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

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Relinquished by: (signature)	Date/Time: 10/24/11 18:00
Received by: (signature)	Date/Time: 10/24/11 18:00
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 DAY STD.
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
AIHA ACCREDITED LABORATORY

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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East Longmeadow, MA. 01028
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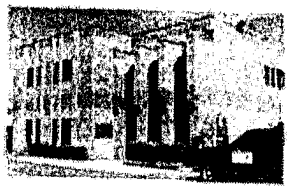

Sample Receipt Checklist

CLIENT NAME: Woodard & Curran **RECEIVED BY:** SD **DATE:** 10/24/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.3

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	6
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

11J0878-01 KGL-VWC-067

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.02	1.91204	5.49
Decachlorobiphenyl	2.05	2.01954	1.5

11J0878-02 KGL-VWB-068

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.97	1.96089	0.464
Tetrachloro-m-xylene	1.91	1.80326	5.75

11J0878-03 KGL-VWC-069

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.01	2.0015	0.424
Tetrachloro-m-xylene	1.88	1.78477	5.2

11J0878-04 KGL-VWB-070

Analyte	Results		%RPD
Aroclor-1254	0.18	0.20221	11.6
Surrogates			
Decachlorobiphenyl	1.99	1.98245	0.38
Tetrachloro-m-xylene	1.94	1.84195	5.19

11J0878-05 KGL-VW-071

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.04	1.93963	5.04
Decachlorobiphenyl	2.04	1.98993	2.48

11J0878-06 KGL-VW-072

Analyte	Results		%RPD
Aroclor-1254	0.34	0.38134	11.5
Surrogates			
Decachlorobiphenyl	1.92	1.86182	3.08
Tetrachloro-m-xylene	1.78	1.79909	1.07

B039887-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.89	1.85116	2.08
Tetrachloro-m-xylene	1.90	1.84888	2.73

B039887-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.55	0.53446	2.87
Aroclor-1260	0.51	0.54326	6.32
Surrogates			
Decachlorobiphenyl	1.96	1.87208	4.59
Tetrachloro-m-xylene	1.97	1.83348	7.18

B039887-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.48	0.56446	16.2
Aroclor-1260	0.53	0.56961	7.2
Surrogates			
Tetrachloro-m-xylene	1.94	1.90331	1.91
Decachlorobiphenyl	1.97	1.96256	0.378

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November 2, 2011

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

Project Location: Yale-Kline Geo
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0955

Enclosed are results of analyses for samples received by the laboratory on October 26, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 11/2/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0955

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

PROJECT LOCATION: Yale-Kline Geo

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VBR-073	11J0955-01	Product/Solid		SW-846 8082A	
KGL-VBRD-074	11J0955-02	Product/Solid		SW-846 8082A	
KGL-VWC-075	11J0955-03	Wipe		SW-846 8082A	
KGL-VWC-076	11J0955-04	Wipe		SW-846 8082A	
KGL-VWC-077	11J0955-05	Wipe		SW-846 8082A	
KGL-VWC-078	11J0955-06	Wipe		SW-846 8082A	
KGL-VWC-079	11J0955-07	Wipe		SW-846 8082A	
KGL-VBQ-080	11J0955-08	Equipment Blank Water		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

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

Daren J. Damboragian
Laboratory Manager

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

Project Location: Yale-Kline Geo
Sample Description:
Work Order: 11J0955

Date Received: 10/26/2011

Field Sample #: KGL-VBR-073
Sampled: 10/26/2011 12:30

Sample ID: 11J0955-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/27/11	11/2/11 12:51	JMB
Aroclor-1221 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/27/11	11/2/11 12:51	JMB
Aroclor-1232 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/27/11	11/2/11 12:51	JMB
Aroclor-1242 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/27/11	11/2/11 12:51	JMB
Aroclor-1248 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/27/11	11/2/11 12:51	JMB
Aroclor-1254 [1]	12	1.9	mg/Kg	20		SW-846 8082A	10/27/11	11/2/11 12:51	JMB
Aroclor-1260 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/27/11	11/2/11 12:51	JMB
Aroclor-1262 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/27/11	11/2/11 12:51	JMB
Aroclor-1268 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	10/27/11	11/2/11 12:51	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	106	30-150		11/2/11 12:51
Decachlorobiphenyl [2]	106	30-150		11/2/11 12:51
Tetrachloro-m-xylene [1]	95.9	30-150		11/2/11 12:51
Tetrachloro-m-xylene [2]	108	30-150		11/2/11 12:51

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Project Location: Yale-Kline Geo
Sample Description:
Work Order: 11J0955

Date Received: 10/26/2011

Field Sample #: KGL-VBRD-074
Sampled: 10/26/2011 12:30

Sample ID: 11J0955-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.8	mg/Kg	20		SW-846 8082A	10/27/11	11/1/11 14:34	JMB
Aroclor-1221 [1]	ND	1.8	mg/Kg	20		SW-846 8082A	10/27/11	11/1/11 14:34	JMB
Aroclor-1232 [1]	ND	1.8	mg/Kg	20		SW-846 8082A	10/27/11	11/1/11 14:34	JMB
Aroclor-1242 [1]	ND	1.8	mg/Kg	20		SW-846 8082A	10/27/11	11/1/11 14:34	JMB
Aroclor-1248 [1]	ND	1.8	mg/Kg	20		SW-846 8082A	10/27/11	11/1/11 14:34	JMB
Aroclor-1254 [1]	13	1.8	mg/Kg	20		SW-846 8082A	10/27/11	11/1/11 14:34	JMB
Aroclor-1260 [1]	ND	1.8	mg/Kg	20		SW-846 8082A	10/27/11	11/1/11 14:34	JMB
Aroclor-1262 [1]	ND	1.8	mg/Kg	20		SW-846 8082A	10/27/11	11/1/11 14:34	JMB
Aroclor-1268 [1]	ND	1.8	mg/Kg	20		SW-846 8082A	10/27/11	11/1/11 14:34	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	108	30-150		11/1/11 14:34
Decachlorobiphenyl [2]	107	30-150		11/1/11 14:34
Tetrachloro-m-xylene [1]	94.5	30-150		11/1/11 14:34
Tetrachloro-m-xylene [2]	108	30-150		11/1/11 14:34

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11J0955

Date Received: 10/26/2011

Field Sample #: KGL-VWC-075 | Sampled: 10/26/2011 09:30

Sample ID: 11J0955-03

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	10/27/11	10/29/11 15:46	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:46	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:46	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:46	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:46	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:46	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:46	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:46	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:46	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	99.5	30-150		10/29/11 15:46
Decachlorobiphenyl [2]	96.6	30-150		10/29/11 15:46
Tetrachloro-m-xylene [1]	93.1	30-150		10/29/11 15:46
Tetrachloro-m-xylene [2]	92.8	30-150		10/29/11 15:46

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

Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11J0955

Date Received: 10/26/2011

Field Sample #: KGL-VWC-076 | Sampled: 10/26/2011 10:00

Sample ID: 11J0955-04

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	10/27/11	10/29/11 15:59	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:59	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:59	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:59	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:59	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:59	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:59	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:59	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 15:59	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		10/29/11 15:59
Decachlorobiphenyl [2]	98.5	30-150		10/29/11 15:59
Tetrachloro-m-xylene [1]	100	30-150		10/29/11 15:59
Tetrachloro-m-xylene [2]	95.1	30-150		10/29/11 15:59

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11J0955

Date Received: 10/26/2011

Field Sample #: KGL-VWC-077 | Sampled: 10/26/2011 10:25

Sample ID: 11J0955-05

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	10/27/11	10/29/11 16:12	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:12	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:12	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:12	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:12	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:12	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:12	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:12	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:12	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.9	30-150		10/29/11 16:12
Decachlorobiphenyl [2]	93.3	30-150		10/29/11 16:12
Tetrachloro-m-xylene [1]	92.2	30-150		10/29/11 16:12
Tetrachloro-m-xylene [2]	87.3	30-150		10/29/11 16:12

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11J0955

Date Received: 10/26/2011

Field Sample #: KGL-VWC-078 | Sampled: 10/26/2011 11:15

Sample ID: 11J0955-06

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	10/27/11	10/29/11 16:25	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:25	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:25	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:25	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:25	JMB
Aroclor-1254 [1]	1.2	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:25	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:25	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:25	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:25	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.5	30-150		10/29/11 16:25
Decachlorobiphenyl [2]	92.7	30-150		10/29/11 16:25
Tetrachloro-m-xylene [1]	90.5	30-150		10/29/11 16:25
Tetrachloro-m-xylene [2]	85.9	30-150		10/29/11 16:25

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11J0955

Date Received: 10/26/2011

Field Sample #: KGL-VWC-079 | Sampled: 10/26/2011 11:20

Sample ID: 11J0955-07

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	10/27/11	10/29/11 16:38	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:38	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:38	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:38	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:38	JMB
Aroclor-1254 [2]	0.88	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:38	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:38	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:38	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/27/11	10/29/11 16:38	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.7	30-150		10/29/11 16:38
Decachlorobiphenyl [2]	93.7	30-150		10/29/11 16:38
Tetrachloro-m-xylene [1]	96.5	30-150		10/29/11 16:38
Tetrachloro-m-xylene [2]	91.2	30-150		10/29/11 16:38

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Project Location: Yale-Kline Geo
Sample Description:
Work Order: 11J0955

Date Received: 10/26/2011

Field Sample #: KGL-VBQ-080
Sampled: 10/26/2011 00:00

Sample ID: 11J0955-08

Sample Matrix: Equipment Blank Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/27/11	10/27/11 21:44	JMB
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/27/11	10/27/11 21:44	JMB
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/27/11	10/27/11 21:44	JMB
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/27/11	10/27/11 21:44	JMB
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/27/11	10/27/11 21:44	JMB
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/27/11	10/27/11 21:44	JMB
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/27/11	10/27/11 21:44	JMB
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/27/11	10/27/11 21:44	JMB
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	10/27/11	10/27/11 21:44	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	66.5	30-150		10/27/11 21:44
Decachlorobiphenyl [2]	64.5	30-150		10/27/11 21:44
Tetrachloro-m-xylene [1]	98.4	30-150		10/27/11 21:44
Tetrachloro-m-xylene [2]	101	30-150		10/27/11 21:44

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0955-02 [KGL-VBRD-074]	B040046	2.20	10.0	10/27/11

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0955-01 [KGL-VBR-073]	B040055	2.10	10.0	10/27/11

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11J0955-08 [KGL-VBQ-080]	B039999	1000	10.0	10/27/11

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
11J0955-03 [KGL-VWC-075]	B040043	1.00	10.0	10/27/11
11J0955-04 [KGL-VWC-076]	B040043	1.00	10.0	10/27/11
11J0955-05 [KGL-VWC-077]	B040043	1.00	10.0	10/27/11
11J0955-06 [KGL-VWC-078]	B040043	1.00	10.0	10/27/11
11J0955-07 [KGL-VWC-079]	B040043	1.00	10.0	10/27/11

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039999 - SW-846 3510C										
Blank (B039999-BLK1)				Prepared & Analyzed: 10/27/11						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*2.16*		µg/L	2.00		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.08*		µg/L	2.00		104	30-150			
Surrogate: Tetrachloro-m-xylene	*2.07*		µg/L	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.09*		µg/L	2.00		104	30-150			
LCS (B039999-BS1)				Prepared & Analyzed: 10/27/11						
Aroclor-1016	0.53	0.20	µg/L	0.500		106	40-140			
Aroclor-1016 [2C]	0.52	0.20	µg/L	0.500		105	40-140			
Aroclor-1260	0.53	0.20	µg/L	0.500		107	40-140			
Aroclor-1260 [2C]	0.51	0.20	µg/L	0.500		102	40-140			
Surrogate: Decachlorobiphenyl	*2.21*		µg/L	2.00		111	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.12*		µg/L	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	*2.08*		µg/L	2.00		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.12*		µg/L	2.00		106	30-150			
LCS Dup (B039999-BSD1)				Prepared & Analyzed: 10/27/11						
Aroclor-1016	0.52	0.20	µg/L	0.500		104	40-140	1.77	20	
Aroclor-1016 [2C]	0.47	0.20	µg/L	0.500		94.1	40-140	11.0	20	
Aroclor-1260	0.57	0.20	µg/L	0.500		114	40-140	6.90	20	
Aroclor-1260 [2C]	0.51	0.20	µg/L	0.500		102	40-140	0.141	20	
Surrogate: Decachlorobiphenyl	*2.15*		µg/L	2.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.06*		µg/L	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*2.03*		µg/L	2.00		102	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.08*		µg/L	2.00		104	30-150			

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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 B040043 - SW-846 3540C										
Blank (B040043-BLK1)				Prepared: 10/27/11 Analyzed: 10/29/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.89*		µg/Wipe	2.00		94.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.89*		µg/Wipe	2.00		94.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.84*		µg/Wipe	2.00		91.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.75*		µg/Wipe	2.00		87.3	30-150			
LCS (B040043-BS1)				Prepared: 10/27/11 Analyzed: 10/29/11						
Aroclor-1016	0.51	0.20	µg/Wipe	0.500		102	40-140			
Aroclor-1016 [2C]	0.53	0.20	µg/Wipe	0.500		106	40-140			
Aroclor-1260	0.54	0.20	µg/Wipe	0.500		107	40-140			
Aroclor-1260 [2C]	0.58	0.20	µg/Wipe	0.500		115	40-140			
Surrogate: Decachlorobiphenyl	*2.02*		µg/Wipe	2.00		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.99*		µg/Wipe	2.00		99.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.87*		µg/Wipe	2.00		93.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.90*		µg/Wipe	2.00		95.0	30-150			
LCS Dup (B040043-BSD1)				Prepared: 10/27/11 Analyzed: 10/29/11						
Aroclor-1016	0.53	0.20	µg/Wipe	0.500		107	40-140	4.00	30	
Aroclor-1016 [2C]	0.54	0.20	µg/Wipe	0.500		108	40-140	2.15	30	
Aroclor-1260	0.56	0.20	µg/Wipe	0.500		112	40-140	3.82	30	
Aroclor-1260 [2C]	0.64	0.20	µg/Wipe	0.500		127	40-140	9.97	30	
Surrogate: Decachlorobiphenyl	*1.90*		µg/Wipe	2.00		95.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.88*		µg/Wipe	2.00		93.9	30-150			
Surrogate: Tetrachloro-m-xylene	*1.86*		µg/Wipe	2.00		93.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.78*		µg/Wipe	2.00		88.8	30-150			

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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 B040046 - SW-846 3540C										
Blank (B040046-BLK1)				Prepared: 10/27/11 Analyzed: 10/30/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*1.03*		mg/Kg	1.00		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.08*		mg/Kg	1.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	*0.987*		mg/Kg	1.00		98.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.984*		mg/Kg	1.00		98.4	30-150			
LCS (B040046-BS1)				Prepared: 10/27/11 Analyzed: 10/30/11						
Aroclor-1016	0.31	0.10	mg/Kg	0.250		123	40-140			
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		116	40-140			
Aroclor-1260	0.31	0.10	mg/Kg	0.250		122	40-140			
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		117	40-140			
Surrogate: Decachlorobiphenyl	*1.04*		mg/Kg	1.00		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.09*		mg/Kg	1.00		109	30-150			
Surrogate: Tetrachloro-m-xylene	*1.04*		mg/Kg	1.00		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.04*		mg/Kg	1.00		104	30-150			
LCS Dup (B040046-BSD1)				Prepared: 10/27/11 Analyzed: 10/30/11						
Aroclor-1016	0.29	0.10	mg/Kg	0.250		116	40-140	5.90	30	
Aroclor-1016 [2C]	0.28	0.10	mg/Kg	0.250		111	40-140	4.59	30	
Aroclor-1260	0.29	0.10	mg/Kg	0.250		117	40-140	4.36	30	
Aroclor-1260 [2C]	0.28	0.10	mg/Kg	0.250		111	40-140	5.16	30	
Surrogate: Decachlorobiphenyl	*0.981*		mg/Kg	1.00		98.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.04*		mg/Kg	1.00		104	30-150			
Surrogate: Tetrachloro-m-xylene	*0.970*		mg/Kg	1.00		97.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.970*		mg/Kg	1.00		97.0	30-150			

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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 B040055 - SW-846 3540C										
Blank (B040055-BLK1)				Prepared: 10/27/11 Analyzed: 11/02/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.924*		mg/Kg	1.00		92.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.05*		mg/Kg	1.00		105	30-150			
Surrogate: Tetrachloro-m-xylene	*0.885*		mg/Kg	1.00		88.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.874*		mg/Kg	1.00		87.4	30-150			
LCS (B040055-BS1)				Prepared: 10/27/11 Analyzed: 11/02/11						
Aroclor-1016	0.24	0.10	mg/Kg	0.250		97.4	40-140			
Aroclor-1016 [2C]	0.27	0.10	mg/Kg	0.250		107	40-140			
Aroclor-1260	0.23	0.10	mg/Kg	0.250		93.5	40-140			
Aroclor-1260 [2C]	0.27	0.10	mg/Kg	0.250		109	40-140			
Surrogate: Decachlorobiphenyl	*0.880*		mg/Kg	1.00		88.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.00*		mg/Kg	1.00		100	30-150			
Surrogate: Tetrachloro-m-xylene	*0.904*		mg/Kg	1.00		90.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.887*		mg/Kg	1.00		88.7	30-150			
LCS Dup (B040055-BSD1)				Prepared: 10/27/11 Analyzed: 11/02/11						
Aroclor-1016	0.24	0.10	mg/Kg	0.250		97.2	40-140	0.224	30	
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		114	40-140	6.81	30	
Aroclor-1260	0.25	0.10	mg/Kg	0.250		102	40-140	8.57	30	
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		117	40-140	7.46	30	
Surrogate: Decachlorobiphenyl	*0.975*		mg/Kg	1.00		97.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.11*		mg/Kg	1.00		111	30-150			
Surrogate: Tetrachloro-m-xylene	*0.969*		mg/Kg	1.00		96.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.964*		mg/Kg	1.00		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
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC
Aroclor-1016 [2C]	CT,NH,NY,ME,NC
Aroclor-1221	CT,NH,NY,ME,NC
Aroclor-1221 [2C]	CT,NH,NY,ME,NC
Aroclor-1232	CT,NH,NY,ME,NC
Aroclor-1232 [2C]	CT,NH,NY,ME,NC
Aroclor-1242	CT,NH,NY,ME,NC
Aroclor-1242 [2C]	CT,NH,NY,ME,NC
Aroclor-1248	CT,NH,NY,ME,NC
Aroclor-1248 [2C]	CT,NH,NY,ME,NC
Aroclor-1254	CT,NH,NY,ME,NC
Aroclor-1254 [2C]	CT,NH,NY,ME,NC
Aroclor-1260	CT,NH,NY,ME,NC
Aroclor-1260 [2C]	CT,NH,NY,ME,NC
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,RI,NC,ME
Aroclor-1016 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1221	CT,NH,NY,RI,NC,ME
Aroclor-1221 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1232	CT,NH,NY,RI,NC,ME
Aroclor-1232 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1242	CT,NH,NY,RI,NC,ME
Aroclor-1242 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1248	CT,NH,NY,RI,NC,ME
Aroclor-1248 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1254	CT,NH,NY,RI,NC,ME
Aroclor-1254 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1260	CT,NH,NY,RI,NC,ME
Aroclor-1260 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

11J 0955

Company Name: Woodard & Curran
Address: 35 New England Business Park, Andover, MASS
Attention: G. Franklin, J Hamel
Project Location: YALE - Kline Geo
Sampled By: Kim Rinard (413) 531-4455

Telephone:
Project #: 224415
Client PO#:

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

Project Proposal Provided? (for billing purposes)
☑ yes 2011921 proposal date

ANALYSIS REQUESTED: PCB's EPA 8082 w/ 3540C

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB's EPA 8082 w/ 3540C	# of Containers	** Preservation	*** Container Code
									1	I	G
-01	KGL-VBR-073	10/26/11	1230			S	U	✓		I	
-02	KGL-VBRD-074		1230			S	U	✓		I	
-03	KGL-VWC-075		0930			WI	U	✓		O	
-04	KGL-VWC-076		1000			WI	U	✓		O	
-05	KGL-VWC-077		1025			WI	U	✓		O	
-06	KGL-VWC-078		1115			WI	U	✓		O	
-07	KGL-VWC-079		1120			WI	U	✓		O	
-08	KGL-VBQ-080	10/26/11	1715			LW	U	✓		I	
	10/26/11										

Kim

Comments: EPA 8082 PCB's by 3540C Soxhlet Ext
RL's 1ug per wipe Solids 1 mg/kg

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

***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 ~~Hexane~~

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

Dissolved Metals
O Field Filtered
O Lab to Filter

Relinquished by: (signature)	Date/Time:
K. Rinard	10/26/11 1700
Received by: (signature)	**Date/Time:**
Paula Blakeborough	10/26/11 1700
Relinquished by: (signature)	**Date/Time:**
Received by: (signature)	**Date/Time:**

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 day
RUSH † STD
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: Wipe 1ug/wipe Solid 1mg/kg

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

ACCREDITED IN ACCORDANCE WITH nelac
AIHA ACCREDITED LABORATORY

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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East Longmeadow, MA. 01028
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F: 413-525-6405
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Sample Receipt Checklist

CLIENT NAME: Woodard & Curran **RECEIVED BY:** SD **DATE:** 10/26/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.9

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	1	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	7
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

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

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May 2011

11J0955-01 KGL-VBR-073

Analyte	Results		%RPD
Aroclor-1254	12	11.548	3.84
Surrogates			
Decachlorobiphenyl	1.01	1.013714	0.367
Tetrachloro-m-xylene	0.913	1.026857	11.7

11J0955-02 KGL-VBRD-074

Analyte	Results		%RPD
Aroclor-1254	13	12.24382	5.99
Surrogates			
Decachlorobiphenyl	0.980	0.9764545	0.362
Tetrachloro-m-xylene	0.859	0.9859091	13.8

11J0955-03 KGL-VWC-075

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.86	1.85598	0.216
Decachlorobiphenyl	1.99	1.93198	2.96

11J0955-04 KGL-VWC-076

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.01	1.96942	2.04
Tetrachloro-m-xylene	2.01	1.90177	5.53

11J0955-05 KGL-VWC-077

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.92	1.86644	2.83
Tetrachloro-m-xylene	1.84	1.74551	5.27

11J0955-06 KGL-VWC-078

Analyte	Results		%RPD
Aroclor-1254	1.2	1.18886	0.933
Surrogates			
Decachlorobiphenyl	1.91	1.85382	2.99
Tetrachloro-m-xylene	1.81	1.71851	5.19

11J0955-07 KGL-VWC-079

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.88	0.8119	8.05
Surrogates			
Tetrachloro-m-xylene	1.93	1.82401	5.65
Decachlorobiphenyl	1.93	1.87387	2.95

11J0955-08 KGL-VBQ-080

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.97	2.01283	2.15
Decachlorobiphenyl	1.33	1.28978	3.07

11J0975-01 HH-CBB-015

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.07	1.123586	4.89
Tetrachloro-m-xylene	0.974	0.9568143	1.78

B039999-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.16	2.07505	4.01

Tetrachloro-m-xylene	2.07	2.08699	0.817

B039999-BS1 LCS

Analyte		Results	%RPD
Aroclor-1260	0.53	0.51149	3.55
Aroclor-1016	0.53	0.52478	0.99
Surrogates			
Decachlorobiphenyl	2.21	2.12384	3.98
Tetrachloro-m-xylene	2.08	2.12425	2.11

B039999-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	0.52	0.47028	10
Aroclor-1260	0.57	0.51077	11
Surrogates			
Decachlorobiphenyl	2.15	2.05716	4.41
Tetrachloro-m-xylene	2.03	2.07749	2.31

B040043-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	1.84	1.74592	5.25
Decachlorobiphenyl	1.89	1.89231	0.122

B040043-BS1 LCS

Analyte		Results	%RPD
Aroclor-1260	0.54	0.57582	6.42
Aroclor-1016	0.51	0.52757	3.39
Surrogates			
Decachlorobiphenyl	2.02	1.99179	1.41
Tetrachloro-m-xylene	1.87	1.90078	1.63

B040043-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	0.53	0.53906	1.69
Aroclor-1260	0.56	0.63627	12.8
Surrogates			
Decachlorobiphenyl	1.90	1.87871	1.13
Tetrachloro-m-xylene	1.86	1.77608	4.62

B040046-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	0.987	0.984115	0.293
Decachlorobiphenyl	1.03	1.07688	4.45

B040046-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	0.31	0.28938	6.88
Aroclor-1260	0.31	0.292135	5.93
Surrogates			
Tetrachloro-m-xylene	1.04	1.035795	0.405
Decachlorobiphenyl	1.04	1.086155	4.34

B040046-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	0.29	0.276405	4.8
Aroclor-1260	0.29	0.277435	4.43
Surrogates			
Tetrachloro-m-xylene	0.970	0.969875	0.0129
Decachlorobiphenyl	0.981	1.03567	5.42

B040046-MS1 Matrix Spike

Analyte		Results	%RPD

Aroclor-1016	0.27	0.270495	0.183
Aroclor-1260	0.26	0.27686	6.28
Surrogates			
Tetrachloro-m-xylene	1.02	1.039325	1.88
Decachlorobiphenyl	1.11	1.02026	8.43

B040046-MSD1 Matrix Spike Dup

Analyte	Results		%RPD
Aroclor-1016	0.26	0.258635	0.526
Aroclor-1260	0.23	0.258485	11.7
Surrogates			
Decachlorobiphenyl	1.01	0.930355	8.21
Tetrachloro-m-xylene	0.938	0.964395	2.77

B040055-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	0.885	0.87388	1.26
Decachlorobiphenyl	0.924	1.05154	12.9

B040055-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.24	0.2663	10.4
Aroclor-1260	0.23	0.271815	16.7
Surrogates			
Tetrachloro-m-xylene	0.904	0.88734	1.86
Decachlorobiphenyl	0.880	1.00089	12.9

B040055-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.24	0.285065	17.2
Aroclor-1260	0.25	0.29287	15.8
Surrogates			
Tetrachloro-m-xylene	0.969	0.96363	0.556
Decachlorobiphenyl	0.975	1.10972	12.9

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November 9, 2011

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

Project Location: Yale-Kline Geo
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11K0050

Enclosed are results of analyses for samples received by the laboratory on November 2, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 11/9/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K0050

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

PROJECT LOCATION: Yale-Kline Geo

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-093	11K0050-01	Wipe		SW-846 8082A	
KGL-VBP-094	11K0050-02	Product/Solid		SW-846 8082A	
KGL-VBT-095	11K0050-03	Product/Solid		SW-846 8082A	
KGL-VBP-096	11K0050-04	Product/Solid		SW-846 8082A	
KGL-VWC-097	11K0050-05	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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

Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0050

Date Received: 11/2/2011

Field Sample #: KGL-VWC-093 | Sampled: 11/1/2011 08:30

Sample ID: 11K0050-01

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	11/3/11	11/5/11 7:42	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:42	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:42	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:42	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:42	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:42	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:42	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:42	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:42	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	112	30-150		11/5/11 7:42
Decachlorobiphenyl [2]	102	30-150		11/5/11 7:42
Tetrachloro-m-xylene [1]	107	30-150		11/5/11 7:42
Tetrachloro-m-xylene [2]	107	30-150		11/5/11 7:42

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0050

Date Received: 11/2/2011

Field Sample #: KGL-VBP-094 | Sampled: 11/1/2011 10:00

Sample ID: 11K0050-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/3/11	11/6/11 8:31	JMB
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/3/11	11/6/11 8:31	JMB
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/3/11	11/6/11 8:31	JMB
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/3/11	11/6/11 8:31	JMB
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/3/11	11/6/11 8:31	JMB
Aroclor-1254 [1]	12	2.0	mg/Kg	20		SW-846 8082A	11/3/11	11/6/11 8:31	JMB
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/3/11	11/6/11 8:31	JMB
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/3/11	11/6/11 8:31	JMB
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/3/11	11/6/11 8:31	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	104	30-150		11/6/11 8:31
Decachlorobiphenyl [2]	90.2	30-150		11/6/11 8:31
Tetrachloro-m-xylene [1]	88.8	30-150		11/6/11 8:31
Tetrachloro-m-xylene [2]	89.7	30-150		11/6/11 8:31

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0050

Date Received: 11/2/2011

Field Sample #: KGL-VBT-095 | Sampled: 11/1/2011 10:15

Sample ID: 11K0050-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/3/11	11/6/11 9:49	JMB
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/3/11	11/6/11 9:49	JMB
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/3/11	11/6/11 9:49	JMB
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/3/11	11/6/11 9:49	JMB
Aroclor-1248 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/3/11	11/6/11 9:49	JMB
Aroclor-1254 [1]	3.1	0.50	mg/Kg	5		SW-846 8082A	11/3/11	11/6/11 9:49	JMB
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/3/11	11/6/11 9:49	JMB
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/3/11	11/6/11 9:49	JMB
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/3/11	11/6/11 9:49	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	115	30-150		11/6/11 9:49
Decachlorobiphenyl [2]	97.7	30-150		11/6/11 9:49
Tetrachloro-m-xylene [1]	90.2	30-150		11/6/11 9:49
Tetrachloro-m-xylene [2]	92.6	30-150		11/6/11 9:49

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0050

Date Received: 11/2/2011

Field Sample #: KGL-VBP-096 | Sampled: 11/1/2011 10:45

Sample ID: 11K0050-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/3/11	11/6/11 8:59	JMB
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/3/11	11/6/11 8:59	JMB
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/3/11	11/6/11 8:59	JMB
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/3/11	11/6/11 8:59	JMB
Aroclor-1248 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/3/11	11/6/11 8:59	JMB
Aroclor-1254 [1]	9.9	1.0	mg/Kg	10		SW-846 8082A	11/3/11	11/6/11 8:59	JMB
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/3/11	11/6/11 8:59	JMB
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/3/11	11/6/11 8:59	JMB
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/3/11	11/6/11 8:59	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	107	30-150		11/6/11 8:59
Decachlorobiphenyl [2]	93.8	30-150		11/6/11 8:59
Tetrachloro-m-xylene [1]	111	30-150		11/6/11 8:59
Tetrachloro-m-xylene [2]	111	30-150		11/6/11 8:59

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0050

Date Received: 11/2/2011

Field Sample #: KGL-VWC-097 | Sampled: 11/2/2011 13:40

Sample ID: 11K0050-05

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	11/3/11	11/5/11 7:55	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:55	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:55	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:55	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:55	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:55	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:55	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:55	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/3/11	11/5/11 7:55	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	105	30-150		11/5/11 7:55
Decachlorobiphenyl [2]	95.6	30-150		11/5/11 7:55
Tetrachloro-m-xylene [1]	102	30-150		11/5/11 7:55
Tetrachloro-m-xylene [2]	102	30-150		11/5/11 7:55

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11K0050-02 [KGL-VBP-094]	B040325	2.00	10.0	11/03/11
11K0050-03 [KGL-VBT-095]	B040325	2.00	10.0	11/03/11
11K0050-04 [KGL-VBP-096]	B040325	2.00	10.0	11/03/11

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
11K0050-01 [KGL-VWC-093]	B040367	1.00	10.0	11/03/11
11K0050-05 [KGL-VWC-097]	B040367	1.00	10.0	11/03/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B040325 - SW-846 3540C										
Blank (B040325-BLK1)				Prepared: 11/03/11 Analyzed: 11/06/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*1.08*		mg/Kg	1.00		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.872*		mg/Kg	1.00		87.2	30-150			
Surrogate: Tetrachloro-m-xylene	*1.10*		mg/Kg	1.00		110	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.987*		mg/Kg	1.00		98.7	30-150			
LCS (B040325-BS1)				Prepared: 11/03/11 Analyzed: 11/06/11						
Aroclor-1016	0.28	0.10	mg/Kg	0.250		110	40-140			
Aroclor-1016 [2C]	0.27	0.10	mg/Kg	0.250		109	40-140			
Aroclor-1260	0.29	0.10	mg/Kg	0.250		115	40-140			
Aroclor-1260 [2C]	0.25	0.10	mg/Kg	0.250		99.7	40-140			
Surrogate: Decachlorobiphenyl	*1.07*		mg/Kg	1.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.862*		mg/Kg	1.00		86.2	30-150			
Surrogate: Tetrachloro-m-xylene	*1.06*		mg/Kg	1.00		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.945*		mg/Kg	1.00		94.5	30-150			
LCS Dup (B040325-BSD1)				Prepared: 11/03/11 Analyzed: 11/06/11						
Aroclor-1016	0.29	0.10	mg/Kg	0.250		117	40-140	5.75	30	
Aroclor-1016 [2C]	0.26	0.10	mg/Kg	0.250		105	40-140	3.41	30	
Aroclor-1260	0.29	0.10	mg/Kg	0.250		115	40-140	0.0766	30	
Aroclor-1260 [2C]	0.25	0.10	mg/Kg	0.250		99.3	40-140	0.414	30	
Surrogate: Decachlorobiphenyl	*1.08*		mg/Kg	1.00		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.871*		mg/Kg	1.00		87.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.02*		mg/Kg	1.00		102	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.913*		mg/Kg	1.00		91.3	30-150			

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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 B040367 - SW-846 3540C										
Blank (B040367-BLK1)				Prepared: 11/03/11 Analyzed: 11/05/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.26*		µg/Wipe	2.00		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.05*		µg/Wipe	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*2.16*		µg/Wipe	2.00		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.15*		µg/Wipe	2.00		108	30-150			
LCS (B040367-BS1)				Prepared: 11/03/11 Analyzed: 11/05/11						
Aroclor-1016	0.58	0.20	µg/Wipe	0.500		115	40-140			
Aroclor-1016 [2C]	0.54	0.20	µg/Wipe	0.500		108	40-140			
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		105	40-140			
Aroclor-1260 [2C]	0.54	0.20	µg/Wipe	0.500		108	40-140			
Surrogate: Decachlorobiphenyl	*2.23*		µg/Wipe	2.00		111	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.02*		µg/Wipe	2.00		101	30-150			
Surrogate: Tetrachloro-m-xylene	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.10*		µg/Wipe	2.00		105	30-150			
LCS Dup (B040367-BSD1)				Prepared: 11/03/11 Analyzed: 11/05/11						
Aroclor-1016	0.58	0.20	µg/Wipe	0.500		117	40-140	1.08	30	
Aroclor-1016 [2C]	0.53	0.20	µg/Wipe	0.500		105	40-140	2.05	30	
Aroclor-1260	0.51	0.20	µg/Wipe	0.500		102	40-140	2.73	30	
Aroclor-1260 [2C]	0.55	0.20	µg/Wipe	0.500		109	40-140	1.02	30	
Surrogate: Decachlorobiphenyl	*2.13*		µg/Wipe	2.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.94*		µg/Wipe	2.00		97.1	30-150			
Surrogate: Tetrachloro-m-xylene	*2.00*		µg/Wipe	2.00		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.02*		µg/Wipe	2.00		101	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
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC
Aroclor-1016 [2C]	CT,NH,NY,ME,NC
Aroclor-1221	CT,NH,NY,ME,NC
Aroclor-1221 [2C]	CT,NH,NY,ME,NC
Aroclor-1232	CT,NH,NY,ME,NC
Aroclor-1232 [2C]	CT,NH,NY,ME,NC
Aroclor-1242	CT,NH,NY,ME,NC
Aroclor-1242 [2C]	CT,NH,NY,ME,NC
Aroclor-1248	CT,NH,NY,ME,NC
Aroclor-1248 [2C]	CT,NH,NY,ME,NC
Aroclor-1254	CT,NH,NY,ME,NC
Aroclor-1254 [2C]	CT,NH,NY,ME,NC
Aroclor-1260	CT,NH,NY,ME,NC
Aroclor-1260 [2C]	CT,NH,NY,ME,NC

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

CHAIN OF CUSTODY RECORD

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11K0050

Company Name: Woodard + Curran
Address: 35 N.E. Business Park
Andover, MA
Attention: G. Franklin, J Hamel
Project Location: Yale - Kline Geo
Sampled By: Kim Rinard (413) 531-4455

Telephone:
Project # 224415
Client PO#

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

Project Proposal Provided? (for billing purposes)
✓ yes 20110921 proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPA 8082 by 3540C	EPA 8082 by 3540C	# of Containers	** Preservation	***Container Code
										1	I	G
01	KGL-VWC-093	11/1/11	0830			WI →			✓			
02	KGL-VBP-~~093~~ 094	↓	1000			S →		✓				
03	KGL-VBT-095	↓	1015			S →		✓				
04	KGL-VBP-096	11/1/11	1045			S →		✓				
05	KGL-VWC-097	11/2/11	1340			WI →			✓			

Comments: EPA 8082 PCB's by 3540c Soxhlet PCB's
R.L 1ug/wipe and ≤1 mg/kg for bulk samples

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

Dissolved Metals
O Field Filtered
O Lab to Filter

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

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

*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	11/2/11 1719
Received by: (signature) 4.9°	11/2/11 1719
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 DAY
RUSH † STD
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA

NELAC & AIHA Certified
WBE/DBE Certified

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

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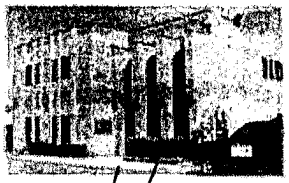

Sample Receipt Checklist

CLIENT NAME: Woodard & Curran RECEIVED BY: CEC DATE: 11/2/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 4.9c

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

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

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May 2011

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

November 9, 2011

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

Project Location: Yale Kline Geo
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11K0196

Enclosed are results of analyses for samples received by the laboratory on November 7, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 11/9/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K0196

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

PROJECT LOCATION: Yale Kline Geo

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWB-104	11K0196-01	Wipe	Rm 108 Ext-2nd Cont	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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

Project Location: Yale Kline Geo | Sample Description: Rm 108 Ext-2nd Cont | Work Order: 11K0196

Date Received: 11/7/2011

Field Sample #: KGL-VWB-104 | Sampled: 11/7/2011 14:15

Sample ID: 11K0196-01

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	2.0	µg/Wipe	2		SW-846 8082A	11/7/11	11/9/11 13:20	JMB
Aroclor-1221 [1]	ND	2.0	µg/Wipe	2		SW-846 8082A	11/7/11	11/9/11 13:20	JMB
Aroclor-1232 [1]	ND	2.0	µg/Wipe	2		SW-846 8082A	11/7/11	11/9/11 13:20	JMB
Aroclor-1242 [1]	ND	2.0	µg/Wipe	2		SW-846 8082A	11/7/11	11/9/11 13:20	JMB
Aroclor-1248 [1]	ND	2.0	µg/Wipe	2		SW-846 8082A	11/7/11	11/9/11 13:20	JMB
Aroclor-1254 [1]	20	2.0	µg/Wipe	2		SW-846 8082A	11/7/11	11/9/11 13:20	JMB
Aroclor-1260 [1]	ND	2.0	µg/Wipe	2		SW-846 8082A	11/7/11	11/9/11 13:20	JMB
Aroclor-1262 [1]	ND	2.0	µg/Wipe	2		SW-846 8082A	11/7/11	11/9/11 13:20	JMB
Aroclor-1268 [1]	ND	2.0	µg/Wipe	2		SW-846 8082A	11/7/11	11/9/11 13:20	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	126	30-150		11/9/11 13:20
Decachlorobiphenyl [2]	123	30-150		11/9/11 13:20
Tetrachloro-m-xylene [1]	118	30-150		11/9/11 13:20
Tetrachloro-m-xylene [2]	123	30-150		11/9/11 13:20

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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
11K0196-01 [KGL-VWB-104]	B040546	1.00	50.0	11/07/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B040546 - SW-846 3540C										
Blank (B040546-BLK1)				Prepared: 11/07/11 Analyzed: 11/08/11						
Aroclor-1016	ND	1.0	µg/Wipe							
Aroclor-1016 [2C]	ND	1.0	µg/Wipe							
Aroclor-1221	ND	1.0	µg/Wipe							
Aroclor-1221 [2C]	ND	1.0	µg/Wipe							
Aroclor-1232	ND	1.0	µg/Wipe							
Aroclor-1232 [2C]	ND	1.0	µg/Wipe							
Aroclor-1242	ND	1.0	µg/Wipe							
Aroclor-1242 [2C]	ND	1.0	µg/Wipe							
Aroclor-1248	ND	1.0	µg/Wipe							
Aroclor-1248 [2C]	ND	1.0	µg/Wipe							
Aroclor-1254	ND	1.0	µg/Wipe							
Aroclor-1254 [2C]	ND	1.0	µg/Wipe							
Aroclor-1260	ND	1.0	µg/Wipe							
Aroclor-1260 [2C]	ND	1.0	µg/Wipe							
Aroclor-1262	ND	1.0	µg/Wipe							
Aroclor-1262 [2C]	ND	1.0	µg/Wipe							
Aroclor-1268	ND	1.0	µg/Wipe							
Aroclor-1268 [2C]	ND	1.0	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.03*		µg/Wipe	2.00		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.18*		µg/Wipe	2.00		109	30-150			
Surrogate: Tetrachloro-m-xylene	*1.79*		µg/Wipe	2.00		89.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.79*		µg/Wipe	2.00		89.7	30-150			
LCS (B040546-BS1)				Prepared: 11/07/11 Analyzed: 11/08/11						
Aroclor-1016	0.52	1.0	µg/Wipe	0.500		103	40-140			
Aroclor-1016 [2C]	0.51	1.0	µg/Wipe	0.500		101	40-140			
Aroclor-1260	0.61	1.0	µg/Wipe	0.500		121	40-140			
Aroclor-1260 [2C]	0.63	1.0	µg/Wipe	0.500		126	40-140			
Surrogate: Decachlorobiphenyl	*2.11*		µg/Wipe	2.00		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.31*		µg/Wipe	2.00		115	30-150			
Surrogate: Tetrachloro-m-xylene	*1.87*		µg/Wipe	2.00		93.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.86*		µg/Wipe	2.00		92.9	30-150			
LCS Dup (B040546-BSD1)				Prepared: 11/07/11 Analyzed: 11/08/11						
Aroclor-1016	0.51	1.0	µg/Wipe	0.500		102	40-140	1.87	30	
Aroclor-1016 [2C]	0.59	1.0	µg/Wipe	0.500		118	40-140	15.1	30	
Aroclor-1260	0.64	1.0	µg/Wipe	0.500		129	40-140	5.89	30	
Aroclor-1260 [2C]	0.67	1.0	µg/Wipe	0.500		134	40-140	5.70	30	
Surrogate: Decachlorobiphenyl	*2.11*		µg/Wipe	2.00		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.33*		µg/Wipe	2.00		116	30-150			
Surrogate: Tetrachloro-m-xylene	*1.88*		µg/Wipe	2.00		94.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.91*		µg/Wipe	2.00		95.3	30-150			

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FLAG/QUALIFIER SUMMARY

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

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

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

24HR RUSH.

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

11K0196

Company Name: Woodard + Curran
Address: 35 New England Business Park
Andover, MA
Attention: G. Franklin, J Hamel
Project Location: Yale Kline Geo
Sampled By: Kim Rinard (413) 531-4455

Telephone:
Project # 224415
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 20110921 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	EPA 8082 by 3540C	ANALYSIS REQUESTED
01	KGL-VWB ~~103~~ 104 KAR 11/7/11	11/7/11	1415			W1	U	✓	Rm 108 Ext-2nd Coat

11/7/11

KAR

# of Containers: 1
** Preservation: I/O
***Container Code: G

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other
W1= WIPE

Comments: EPA 8082 PCBs by Soxhlet (3540C)
R.L @ 1ug/wipe

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	11/7/11 1730
Received by: (signature) Paula Blakeborough	Date/Time: 1730 11/7/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: 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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Sample Receipt Checklist

CLIENT NAME: Woodward and Curran **RECEIVED BY:** C.C.S **DATE:** 1/7/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.9°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

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

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May 2011

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

November 16, 2011

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

Project Location: Yale Kline Geo Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11K0197

Enclosed are results of analyses for samples received by the laboratory on November 7, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 11/16/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K0197

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

PROJECT LOCATION: Yale Kline Geo Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VBB-087	11K0197-01	Brick		SW-846 8082A	
KGL-VBR-098	11K0197-02	Product/Solid		SW-846 8082A	
KGL-VWC-099	11K0197-03	Wipe		SW-846 8082A	
KGL-VBB-100	11K0197-04	Brick		SW-846 8082A	
KGL-VBR-101	11K0197-05	Product/Solid		SW-846 8082A	
KGL-VBR-102	11K0197-06	Product/Solid		SW-846 8082A	
KGL-VBR-103	11K0197-07	Product/Solid		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

11K0197-05[KGL-VBR-101]

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

Michael A. Erickson
Laboratory Director

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

Project Location: Yale Kline Geo Lab | Sample Description: | Work Order: 11K0197

Date Received: 11/7/2011

Field Sample #: KGL-VBB-087 | Sampled: 10/28/2011 11:45

Sample ID: 11K0197-01

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:44	MJC
Aroclor-1221 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:44	MJC
Aroclor-1232 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:44	MJC
Aroclor-1242 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:44	MJC
Aroclor-1248 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:44	MJC
Aroclor-1254 [2]	2.4	0.43	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:44	MJC
Aroclor-1260 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:44	MJC
Aroclor-1262 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:44	MJC
Aroclor-1268 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:44	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.4	30-150		11/14/11 12:44
Decachlorobiphenyl [2]	99.1	30-150		11/14/11 12:44
Tetrachloro-m-xylene [1]	74.5	30-150		11/14/11 12:44
Tetrachloro-m-xylene [2]	89.6	30-150		11/14/11 12:44

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

Project Location: Yale Kline Geo Lab | Sample Description: | Work Order: 11K0197

Date Received: 11/7/2011

Field Sample #: KGL-VBR-098 | Sampled: 11/3/2011 14:45

Sample ID: 11K0197-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:57	MJC
Aroclor-1221 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:57	MJC
Aroclor-1232 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:57	MJC
Aroclor-1242 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:57	MJC
Aroclor-1248 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:57	MJC
Aroclor-1254 [2]	4.7	0.48	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:57	MJC
Aroclor-1260 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:57	MJC
Aroclor-1262 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:57	MJC
Aroclor-1268 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 12:57	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	92.7	30-150		11/14/11 12:57
Decachlorobiphenyl [2]	94.9	30-150		11/14/11 12:57
Tetrachloro-m-xylene [1]	71.9	30-150		11/14/11 12:57
Tetrachloro-m-xylene [2]	85.0	30-150		11/14/11 12:57

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

Project Location: Yale Kline Geo Lab | Sample Description: | Work Order: 11K0197

Date Received: 11/7/2011

Field Sample #: KGL-VWC-099 | Sampled: 11/4/2011 06:30

Sample ID: 11K0197-03

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	11/9/11	11/12/11 20:22	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/9/11	11/12/11 20:22	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/9/11	11/12/11 20:22	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/9/11	11/12/11 20:22	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/9/11	11/12/11 20:22	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/9/11	11/12/11 20:22	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/9/11	11/12/11 20:22	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/9/11	11/12/11 20:22	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/9/11	11/12/11 20:22	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		11/12/11 20:22
Decachlorobiphenyl [2]	109	30-150		11/12/11 20:22
Tetrachloro-m-xylene [1]	98.6	30-150		11/12/11 20:22
Tetrachloro-m-xylene [2]	94.6	30-150		11/12/11 20:22

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Project Location: Yale Kline Geo Lab | Sample Description: | Work Order: 11K0197

Date Received: 11/7/2011

Field Sample #: KGL-VBB-100 | Sampled: 11/7/2011 11:55

Sample ID: 11K0197-04

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/10/11	11/12/11 20:06	MJC
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/10/11	11/12/11 20:06	MJC
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/10/11	11/12/11 20:06	MJC
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/10/11	11/12/11 20:06	MJC
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/10/11	11/12/11 20:06	MJC
Aroclor-1254 [2]	0.43	0.10	mg/Kg	1		SW-846 8082A	11/10/11	11/12/11 20:06	MJC
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/10/11	11/12/11 20:06	MJC
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/10/11	11/12/11 20:06	MJC
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/10/11	11/12/11 20:06	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	87.2	30-150		11/12/11 20:06
Decachlorobiphenyl [2]	87.4	30-150		11/12/11 20:06
Tetrachloro-m-xylene [1]	80.1	30-150		11/12/11 20:06
Tetrachloro-m-xylene [2]	83.3	30-150		11/12/11 20:06

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Project Location: Yale Kline Geo Lab | Sample Description: | Work Order: 11K0197

Date Received: 11/7/2011

Field Sample #: KGL-VBR-101 | Sampled: 11/7/2011 12:55

Sample ID: 11K0197-05

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	11/10/11	11/14/11 13:10	MJC
Aroclor-1221 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	11/10/11	11/14/11 13:10	MJC
Aroclor-1232 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	11/10/11	11/14/11 13:10	MJC
Aroclor-1242 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	11/10/11	11/14/11 13:10	MJC
Aroclor-1248 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	11/10/11	11/14/11 13:10	MJC
Aroclor-1254 [2]	48	4.8	mg/Kg	50		SW-846 8082A	11/10/11	11/14/11 13:10	MJC
Aroclor-1260 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	11/10/11	11/14/11 13:10	MJC
Aroclor-1262 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	11/10/11	11/14/11 13:10	MJC
Aroclor-1268 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	11/10/11	11/14/11 13:10	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	11/14/11 13:10
Decachlorobiphenyl [2]	*	30-150	S-01	11/14/11 13:10
Tetrachloro-m-xylene [1]	*	30-150	S-01	11/14/11 13:10
Tetrachloro-m-xylene [2]	*	30-150	S-01	11/14/11 13:10

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Project Location: Yale Kline Geo Lab | Sample Description: | Work Order: 11K0197

Date Received: 11/7/2011

Field Sample #: KGL-VBR-102 | Sampled: 11/7/2011 13:20

Sample ID: 11K0197-06

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/10/11	11/14/11 13:23	MJC
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/10/11	11/14/11 13:23	MJC
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/10/11	11/14/11 13:23	MJC
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/10/11	11/14/11 13:23	MJC
Aroclor-1248 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/10/11	11/14/11 13:23	MJC
Aroclor-1254 [2]	10	1.0	mg/Kg	10		SW-846 8082A	11/10/11	11/14/11 13:23	MJC
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/10/11	11/14/11 13:23	MJC
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/10/11	11/14/11 13:23	MJC
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	11/10/11	11/14/11 13:23	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	105	30-150		11/14/11 13:23
Decachlorobiphenyl [2]	108	30-150		11/14/11 13:23
Tetrachloro-m-xylene [1]	76.8	30-150		11/14/11 13:23
Tetrachloro-m-xylene [2]	92.0	30-150		11/14/11 13:23

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Project Location: Yale Kline Geo Lab | Sample Description: | Work Order: 11K0197

Date Received: 11/7/2011

Field Sample #: KGL-VBR-103 | Sampled: 10/28/2011 12:00

Sample ID: 11K0197-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 13:36	MJC
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 13:36	MJC
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 13:36	MJC
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 13:36	MJC
Aroclor-1248 [2]	3.4	0.50	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 13:36	MJC
Aroclor-1254 [2]	1.2	0.50	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 13:36	MJC
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 13:36	MJC
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 13:36	MJC
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/10/11	11/14/11 13:36	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		11/14/11 13:36
Decachlorobiphenyl [2]	95.7	30-150		11/14/11 13:36
Tetrachloro-m-xylene [1]	92.9	30-150		11/14/11 13:36
Tetrachloro-m-xylene [2]	94.3	30-150		11/14/11 13:36

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11K0197-01 [KGL-VBB-087]	B040771	2.30	10.0	11/10/11
11K0197-02 [KGL-VBR-098]	B040771	2.10	10.0	11/10/11
11K0197-04 [KGL-VBB-100]	B040771	2.00	10.0	11/10/11
11K0197-05 [KGL-VBR-101]	B040771	2.10	10.0	11/10/11
11K0197-06 [KGL-VBR-102]	B040771	2.00	10.0	11/10/11
11K0197-07 [KGL-VBR-103]	B040771	2.00	10.0	11/10/11

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
11K0197-03 [KGL-VWC-099]	B040716	1.00	10.0	11/09/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B040716 - SW-846 3540C										
Blank (B040716-BLK1)				Prepared: 11/09/11 Analyzed: 11/12/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.47*		µg/Wipe	2.00		73.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.65*		µg/Wipe	2.00		82.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.91*		µg/Wipe	2.00		95.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.86*		µg/Wipe	2.00		93.2	30-150			
LCS (B040716-BS1)				Prepared: 11/09/11 Analyzed: 11/12/11						
Aroclor-1016	0.46	0.20	µg/Wipe	0.500		92.8	40-140			
Aroclor-1016 [2C]	0.44	0.20	µg/Wipe	0.500		87.3	40-140			
Aroclor-1260	0.55	0.20	µg/Wipe	0.500		110	40-140			
Aroclor-1260 [2C]	0.52	0.20	µg/Wipe	0.500		104	40-140			
Surrogate: Decachlorobiphenyl	*1.68*		µg/Wipe	2.00		84.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.89*		µg/Wipe	2.00		94.3	30-150			
Surrogate: Tetrachloro-m-xylene	*1.99*		µg/Wipe	2.00		99.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.93*		µg/Wipe	2.00		96.7	30-150			
LCS Dup (B040716-BSD1)				Prepared: 11/09/11 Analyzed: 11/12/11						
Aroclor-1016	0.53	0.20	µg/Wipe	0.500		106	40-140	13.4	30	
Aroclor-1016 [2C]	0.47	0.20	µg/Wipe	0.500		94.8	40-140	8.16	30	
Aroclor-1260	0.57	0.20	µg/Wipe	0.500		115	40-140	4.14	30	
Aroclor-1260 [2C]	0.53	0.20	µg/Wipe	0.500		107	40-140	2.60	30	
Surrogate: Decachlorobiphenyl	*2.09*		µg/Wipe	2.00		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.29*		µg/Wipe	2.00		114	30-150			
Surrogate: Tetrachloro-m-xylene	*2.02*		µg/Wipe	2.00		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.95*		µg/Wipe	2.00		97.4	30-150			

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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 B040771 - SW-846 3540C										
Blank (B040771-BLK1)				Prepared: 11/10/11 Analyzed: 11/12/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.878*		mg/Kg	1.00		87.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.894*		mg/Kg	1.00		89.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.683*		mg/Kg	1.00		68.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.682*		mg/Kg	1.00		68.2	30-150			
LCS (B040771-BS1)				Prepared: 11/10/11 Analyzed: 11/12/11						
Aroclor-1016	0.20	0.10	mg/Kg	0.250		78.9	40-140			
Aroclor-1016 [2C]	0.23	0.10	mg/Kg	0.250		90.5	40-140			
Aroclor-1260	0.24	0.10	mg/Kg	0.250		97.1	40-140			
Aroclor-1260 [2C]	0.25	0.10	mg/Kg	0.250		101	40-140			
Surrogate: Decachlorobiphenyl	*0.885*		mg/Kg	1.00		88.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.902*		mg/Kg	1.00		90.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.792*		mg/Kg	1.00		79.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.808*		mg/Kg	1.00		80.8	30-150			
LCS Dup (B040771-BSD1)				Prepared: 11/10/11 Analyzed: 11/12/11						
Aroclor-1016	0.22	0.10	mg/Kg	0.250		89.9	40-140	13.1	30	
Aroclor-1016 [2C]	0.24	0.10	mg/Kg	0.250		96.3	40-140	6.20	30	
Aroclor-1260	0.25	0.10	mg/Kg	0.250		102	40-140	4.50	30	
Aroclor-1260 [2C]	0.25	0.10	mg/Kg	0.250		102	40-140	0.680	30	
Surrogate: Decachlorobiphenyl	*0.903*		mg/Kg	1.00		90.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.918*		mg/Kg	1.00		91.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.855*		mg/Kg	1.00		85.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.837*		mg/Kg	1.00		83.7	30-150			

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FLAG/QUALIFIER SUMMARY

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

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CERTIFICATIONS

Certified Analyses included in this Report

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

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

5 DAY STD B/P

CHAIN OF CUSTODY RECORD

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Email: info@contestlabs.com
www.contestlabs.com
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11K0197

Company Name: Woodard + Curran
Address: 35 New England Business Park
Andover, MA
Attention: G. Franklin, J Hamel
Project Location: Yale, Kline Geo Lab
Sampled By: Kim Rinard (413) 531-4455

Telephone:
Project # 224415
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 20110921 proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPA 8082 by 3540C	EPA 8082 by 3540C		
								1	1		# of Containers
								I	O		** Preservation
								G	G		***Container Code
01	KGL-VBB-087	10/28/11	1145			B	U	✓			(Brick)
02	KGL-VBR-098	11/3/11	1445			S	U	✓			(Brownstone)
03	KGL-VWC-099	11/4/11	0630			WI	U		✓		
04	KGL-VBB-100	11/7/11	1155			B	U	✓			
05	KGL-VBR-101	11/7/11	1255			S	U	✓			
06	KGL-VBR-102	11/7/11	1320			S	U	✓			
07	KGL-VBR-103	10/28/11	1200			S	U	✓			

11/7/11

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 HEXANE

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

Comments: EPA 8082 PCB's by Soxhlet (3540C)
RL's 1ug/wipe and 1mg/kg for solids

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	11/7/11 1730
Received by: (signature) Paula Blakeboro	Date/Time: 1730 11/7/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5day STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: RL ≤ 1mg/kg / 1ug per 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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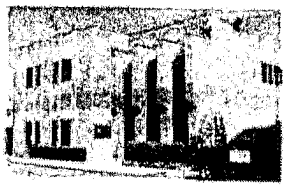

Sample Receipt Checklist

CLIENT NAME: Woodward and Curran **RECEIVED BY:** C.C.S. **DATE:** 11/7/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

On Ice [✓] Direct from Sampling [ ] Ambient [ ] In Cooler(s) [✓]

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.9°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored:

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

Containers received at Con-Test

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

Laboratory Comments:

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

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May 2011

11K0190-02 25

Analyte	Results		%RPD
Aroclor-1248	9.4	9.3184	0.872
Surrogates			
Decachlorobiphenyl	1.08	1.0112	6.58
Tetrachloro-m-xylene	1.07	0.8559	22.2

11K0197-01 KGL-VBB-087

Analyte	Results		%RPD
Aroclor-1254 [2C]	2.4	2.189456	9.18
Surrogates			
Decachlorobiphenyl	0.838	0.8617609	2.8
Tetrachloro-m-xylene	0.648	0.7794565	18.4

11K0197-02 KGL-VBR-098

Analyte	Results		%RPD
Aroclor-1254 [2C]	4.7	4.509762	4.13
Surrogates			
Decachlorobiphenyl	0.883	0.9041667	2.37
Tetrachloro-m-xylene	0.685	0.8092858	16.6

11K0197-03 KGL-VWC-099

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.00	2.18714	8.94
Tetrachloro-m-xylene	1.97	1.89213	4.03

11K0197-04 KGL-VBB-100

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.43	0.390635	9.59
Surrogates			
Decachlorobiphenyl	0.872	0.87429	0.262
Tetrachloro-m-xylene	0.801	0.83259	3.87

11K0197-05 KGL-VBR-101

Analyte	Results		%RPD
Aroclor-1254 [2C]	48	44.38214	7.83

11K0197-06 KGL-VBR-102

Analyte	Results		%RPD
Aroclor-1254 [2C]	10	9.51475	4.97
Surrogates			
Decachlorobiphenyl	1.05	1.07955	2.78
Tetrachloro-m-xylene	0.768	0.91985	18

11K0197-07 KGL-VBR-103

Analyte	Results		%RPD
Aroclor-1248 [2C]	3.4	2.683975	23.5
Aroclor-1254 [2C]	1.2	1.163675	3.07
Surrogates			
Decachlorobiphenyl	1.00	0.956975	4.4
Tetrachloro-m-xylene	0.929	0.9428	1.47

B040716-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.47	1.6542	11.8
Tetrachloro-m-xylene	1.91	1.86464	2.4

B040716-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	0.55	0.5198	5.65

Aroclor-1016	0.46	0.43667	5.2
Surrogates			
Decachlorobiphenyl	1.68	1.88621	11.6
Tetrachloro-m-xylene	1.99	1.9344	2.83

B040716-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	0.53	0.47384	11.2
Aroclor-1260	0.57	0.53349	6.62
Surrogates			
Decachlorobiphenyl	2.09	2.28952	9.11
Tetrachloro-m-xylene	2.02	1.94807	3.63

B040771-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	0.878	0.893865	1.79
Tetrachloro-m-xylene	0.683	0.682065	0.137

B040771-BS1 LCS

Analyte		Results	%RPD
Aroclor-1260	0.24	0.2527	5.16
Aroclor-1016	0.20	0.226215	12.3
Surrogates			
Decachlorobiphenyl	0.885	0.90216	1.92
Tetrachloro-m-xylene	0.792	0.808305	2.04

B040771-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1260	0.25	0.254425	1.75
Aroclor-1016	0.22	0.240695	8.98
Surrogates			
Decachlorobiphenyl	0.903	0.91845	1.7
Tetrachloro-m-xylene	0.855	0.837435	2.08

B040771-MS1 Matrix Spike

Analyte		Results	%RPD
Aroclor-1016	7.4	7.921834	6.81
Aroclor-1260	0.54	0.7033191	26.3
Surrogates			
Decachlorobiphenyl	0.827	0.8264286	0.0691
Tetrachloro-m-xylene	0.717	0.7735334	7.59

B040771-MSD1 Matrix Spike Dup

Analyte		Results	%RPD
Aroclor-1016	8.1	8.737933	7.58
Aroclor-1260	0.57	0.765081	29.2
Surrogates			
Tetrachloro-m-xylene	0.786	0.737581	6.36
Decachlorobiphenyl	0.829	0.8246858	0.522

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November 16, 2011

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

Project Location: Yale Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11K0313

Enclosed are results of analyses for samples received by the laboratory on November 9, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 11/16/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K0313

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

PROJECT LOCATION: Yale Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-105	11K0313-01	Wipe		SW-846 8082A	
KGL-VWB-106	11K0313-02	Wipe		SW-846 8082A	
KGL-VWC-107	11K0313-03	Wipe		SW-846 8082A	
KGL-VWCD-108	11K0313-04	Wipe		SW-846 8082A	
KGL-VWC-109	11K0313-05	Wipe		SW-846 8082A	
KGL-VWC-110	11K0313-06	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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Project Location: Yale Kline Geology Lab | Sample Description: | Work Order: 11K0313

Date Received: 11/9/2011

Field Sample #: KGL-VWC-105 | Sampled: 11/9/2011 07:40

Sample ID: 11K0313-01

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	11/10/11	11/12/11 17:33	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:33	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:33	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:33	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:33	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:33	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:33	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:33	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:33	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	68.8	30-150		11/12/11 17:33
Decachlorobiphenyl [2]	79.4	30-150		11/12/11 17:33
Tetrachloro-m-xylene [1]	88.9	30-150		11/12/11 17:33
Tetrachloro-m-xylene [2]	82.4	30-150		11/12/11 17:33

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Project Location: Yale Kline Geology Lab | Sample Description: | Work Order: 11K0313

Date Received: 11/9/2011

Field Sample #: KGL-VWB-106 | Sampled: 11/9/2011 07:45

Sample ID: 11K0313-02

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	11/10/11	11/12/11 17:46	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:46	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:46	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:46	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:46	MJC
Aroclor-1254 [2]	0.21	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:46	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:46	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:46	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:46	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	67.4	30-150		11/12/11 17:46
Decachlorobiphenyl [2]	76.9	30-150		11/12/11 17:46
Tetrachloro-m-xylene [1]	93.9	30-150		11/12/11 17:46
Tetrachloro-m-xylene [2]	88.0	30-150		11/12/11 17:46

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Project Location: Yale Kline Geology Lab | Sample Description: | Work Order: 11K0313

Date Received: 11/9/2011

Field Sample #: KGL-VWC-107 | Sampled: 11/9/2011 09:40

Sample ID: 11K0313-03

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	11/10/11	11/12/11 17:59	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:59	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:59	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:59	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:59	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:59	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:59	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:59	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 17:59	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	97.5	30-150		11/12/11 17:59
Decachlorobiphenyl [2]	112	30-150		11/12/11 17:59
Tetrachloro-m-xylene [1]	101	30-150		11/12/11 17:59
Tetrachloro-m-xylene [2]	96.8	30-150		11/12/11 17:59

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Project Location: Yale Kline Geology Lab | Sample Description: | Work Order: 11K0313

Date Received: 11/9/2011

Field Sample #: KGL-VWCD-108 | Sampled: 11/9/2011 09:45

Sample ID: 11K0313-04

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	11/10/11	11/12/11 18:12	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:12	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:12	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:12	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:12	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:12	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:12	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:12	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:12	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	69.4	30-150		11/12/11 18:12
Decachlorobiphenyl [2]	78.8	30-150		11/12/11 18:12
Tetrachloro-m-xylene [1]	96.1	30-150		11/12/11 18:12
Tetrachloro-m-xylene [2]	91.5	30-150		11/12/11 18:12

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

Project Location: Yale Kline Geology Lab | Sample Description: | Work Order: 11K0313

Date Received: 11/9/2011

Field Sample #: KGL-VWC-109 | Sampled: 11/9/2011 12:50

Sample ID: 11K0313-05

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	11/10/11	11/12/11 18:25	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:25	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:25	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:25	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:25	MJC
Aroclor-1254 [2]	0.45	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:25	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:25	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:25	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:25	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	69.5	30-150		11/12/11 18:25
Decachlorobiphenyl [2]	78.9	30-150		11/12/11 18:25
Tetrachloro-m-xylene [1]	92.1	30-150		11/12/11 18:25
Tetrachloro-m-xylene [2]	87.9	30-150		11/12/11 18:25

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Project Location: Yale Kline Geology Lab | Sample Description: | Work Order: 11K0313

Date Received: 11/9/2011

Field Sample #: KGL-VWC-110 | Sampled: 11/9/2011 13:40

Sample ID: 11K0313-06

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	11/10/11	11/12/11 18:38	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:38	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:38	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:38	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:38	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:38	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:38	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:38	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/10/11	11/12/11 18:38	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	69.4	30-150		11/12/11 18:38
Decachlorobiphenyl [2]	79.9	30-150		11/12/11 18:38
Tetrachloro-m-xylene [1]	94.5	30-150		11/12/11 18:38
Tetrachloro-m-xylene [2]	89.8	30-150		11/12/11 18:38

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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
11K0313-01 [KGL-VWC-105]	B040776	1.00	10.0	11/10/11
11K0313-02 [KGL-VWB-106]	B040776	1.00	10.0	11/10/11
11K0313-03 [KGL-VWC-107]	B040776	1.00	10.0	11/10/11
11K0313-04 [KGL-VWCD-108]	B040776	1.00	10.0	11/10/11
11K0313-05 [KGL-VWC-109]	B040776	1.00	10.0	11/10/11
11K0313-06 [KGL-VWC-110]	B040776	1.00	10.0	11/10/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B040776 - SW-846 3540C										
Blank (B040776-BLK1)				Prepared: 11/10/11 Analyzed: 11/12/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.29*		µg/Wipe	2.00		64.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.51*		µg/Wipe	2.00		75.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.88*		µg/Wipe	2.00		94.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.82*		µg/Wipe	2.00		91.0	30-150			
LCS (B040776-BS1)				Prepared: 11/10/11 Analyzed: 11/12/11						
Aroclor-1016	0.47	0.20	µg/Wipe	0.500		94.6	40-140			
Aroclor-1016 [2C]	0.40	0.20	µg/Wipe	0.500		80.0	40-140			
Aroclor-1260	0.50	0.20	µg/Wipe	0.500		99.3	40-140			
Aroclor-1260 [2C]	0.49	0.20	µg/Wipe	0.500		98.7	40-140			
Surrogate: Decachlorobiphenyl	*1.71*		µg/Wipe	2.00		85.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.00*		µg/Wipe	2.00		99.9	30-150			
Surrogate: Tetrachloro-m-xylene	*1.74*		µg/Wipe	2.00		87.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.69*		µg/Wipe	2.00		84.4	30-150			
LCS Dup (B040776-BSD1)				Prepared: 11/10/11 Analyzed: 11/12/11						
Aroclor-1016	0.50	0.20	µg/Wipe	0.500		100	40-140	5.77	30	
Aroclor-1016 [2C]	0.40	0.20	µg/Wipe	0.500		80.4	40-140	0.464	30	
Aroclor-1260	0.51	0.20	µg/Wipe	0.500		101	40-140	1.87	30	
Aroclor-1260 [2C]	0.49	0.20	µg/Wipe	0.500		98.6	40-140	0.128	30	
Surrogate: Decachlorobiphenyl	*1.67*		µg/Wipe	2.00		83.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.93*		µg/Wipe	2.00		96.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.75*		µg/Wipe	2.00		87.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.70*		µg/Wipe	2.00		84.9	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	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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Email: info@contestlabs.com
www.contestlabs.com
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East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

11K0313

Page 1 of 1

Company Name: Woodard + Curran
Address: 35 New England Business Center, Andover, MA
Attention: J Hamel, G. Franklin
Project Location: Yale - Kline Geo Lab
Sampled By: K. Rinard

Project Proposal Provided? (for billing purposes) ☑ yes 20110921 proposal date

Telephone:
Project # 224415
Client PO#

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

ANALYSIS REQUESTED: EPA 8082 by 3540C

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	EPA 8082 by 3540C	# of Containers (I)	** Preservation (D)	***Container Code (G)
-01	KGL-VWC-105	11/9/11	0740			WI	U	✓			
-02	KGL-VWB-106		0745			WI	U	✓			
-03	KGL-VWC-107		0940			WI	U	✓			
-04	KGL-VWCD-108		0945			WI	U	✓			
-05	KGL-VWC-109		1250			WI	U	✓			
-06	KGL-VWC-110	11/9/11	1340			WI	U	✓			

11/9/11

Comments: R.L. 1 ug per wipe

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	11/9/11 1750
Received by: (signature) 5.6°	Date/Time: 11/9/2011 17:53
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 day STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: 1 ug per 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
AIHA ACCREDITED LABORATORY
NELAC & AIHA Certified
WBE/DBE Certified

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 HEXANE

***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.

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 & Carran RECEIVED BY: CEC DATE: 11/9/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.6c

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: 14

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	4
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:

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

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

Doc# 277

Rev. 1 May 2011

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

November 21, 2011

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

Project Location: Yale - Kline Geo
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11K0442

Enclosed are results of analyses for samples received by the laboratory on November 14, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 11/21/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K0442

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

PROJECT LOCATION: Yale - Kline Geo

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWL-112	11K0442-01	Wipe		SW-846 8082A	
KGL-VWL-113	11K0442-02	Wipe		SW-846 8082A	
KGL-VWL-114	11K0442-03	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

con-test® ANALYTICAL LABORATORY

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

Project Location: Yale - Kline Geo | Sample Description: | Work Order: 11K0442

Date Received: 11/14/2011

Field Sample #: KGL-VWL-112 | Sampled: 11/14/2011 06:45

Sample ID: 11K0442-01

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	11/16/11	11/17/11 20:44	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:44	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:44	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:44	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:44	MJC
Aroclor-1254 [2]	0.36	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:44	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:44	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:44	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:44	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.8	30-150		11/17/11 20:44
Decachlorobiphenyl [2]	98.3	30-150		11/17/11 20:44
Tetrachloro-m-xylene [1]	89.0	30-150		11/17/11 20:44
Tetrachloro-m-xylene [2]	86.0	30-150		11/17/11 20:44

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

Project Location: Yale - Kline Geo | Sample Description: | Work Order: 11K0442

Date Received: 11/14/2011

Field Sample #: KGL-VWL-113 | Sampled: 11/14/2011 07:10

Sample ID: 11K0442-02

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	11/16/11	11/17/11 20:57	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:57	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:57	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:57	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:57	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:57	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:57	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:57	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 20:57	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.5	30-150		11/17/11 20:57
Decachlorobiphenyl [2]	98.1	30-150		11/17/11 20:57
Tetrachloro-m-xylene [1]	90.5	30-150		11/17/11 20:57
Tetrachloro-m-xylene [2]	87.0	30-150		11/17/11 20:57

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Project Location: Yale - Kline Geo | Sample Description: | Work Order: 11K0442

Date Received: 11/14/2011

Field Sample #: KGL-VWL-114 | Sampled: 11/14/2011 07:50

Sample ID: 11K0442-03

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	11/16/11	11/17/11 21:10	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:10	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:10	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:10	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:10	MJC
Aroclor-1254 [2]	0.21	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:10	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:10	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:10	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:10	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.3	30-150		11/17/11 21:10
Decachlorobiphenyl [2]	98.3	30-150		11/17/11 21:10
Tetrachloro-m-xylene [1]	91.5	30-150		11/17/11 21:10
Tetrachloro-m-xylene [2]	88.0	30-150		11/17/11 21:10

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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
11K0442-01 [KGL-VWL-112]	B041113	1.00	10.0	11/16/11
11K0442-02 [KGL-VWL-113]	B041113	1.00	10.0	11/16/11
11K0442-03 [KGL-VWL-114]	B041113	1.00	10.0	11/16/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B041113 - SW-846 3540C										
Blank (B041113-BLK1)				Prepared: 11/16/11 Analyzed: 11/17/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.91*		µg/Wipe	2.00		95.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.96*		µg/Wipe	2.00		97.8	30-150			
Surrogate: Tetrachloro-m-xylene	*1.80*		µg/Wipe	2.00		90.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.73*		µg/Wipe	2.00		86.7	30-150			
LCS (B041113-BS1)				Prepared: 11/16/11 Analyzed: 11/17/11						
Aroclor-1016	0.47	0.20	µg/Wipe	0.500		93.6	40-140			
Aroclor-1016 [2C]	0.46	0.20	µg/Wipe	0.500		92.3	40-140			
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		105	40-140			
Aroclor-1260 [2C]	0.54	0.20	µg/Wipe	0.500		108	40-140			
Surrogate: Decachlorobiphenyl	*1.93*		µg/Wipe	2.00		96.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.98*		µg/Wipe	2.00		99.2	30-150			
Surrogate: Tetrachloro-m-xylene	*1.82*		µg/Wipe	2.00		91.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.76*		µg/Wipe	2.00		88.0	30-150			
LCS Dup (B041113-BSD1)				Prepared: 11/16/11 Analyzed: 11/17/11						
Aroclor-1016	0.48	0.20	µg/Wipe	0.500		95.6	40-140	2.01	30	
Aroclor-1016 [2C]	0.45	0.20	µg/Wipe	0.500		90.4	40-140	2.13	30	
Aroclor-1260	0.52	0.20	µg/Wipe	0.500		104	40-140	1.12	30	
Aroclor-1260 [2C]	0.52	0.20	µg/Wipe	0.500		104	40-140	3.99	30	
Surrogate: Decachlorobiphenyl	*1.87*		µg/Wipe	2.00		93.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.91*		µg/Wipe	2.00		95.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.73*		µg/Wipe	2.00		86.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.68*		µg/Wipe	2.00		84.0	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	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

CHAIN OF CUSTODY RECORD

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www.contestlabs.com
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Page 1 of 1

11K0442

Company Name: Woodard + Curran
Address: 35 New England Business Park
Andover MA
Attention: G. Franklin, J Hamel
Project Location: Yale - Kline Geo
Sampled By: R. Rinard (413) 531-4455

Project Proposal Provided? (for billing purposes)
☑ yes 20110921 proposal date

Telephone:
Project # 224415
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"

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	# of Containers / ** Preservation / ***Container Code	ANALYSIS REQUESTED: EPA 8082 by 3540C
01	KGL-VWL-112	11/14/11	0645			WI	U	1 O G	✓
02	KGL-VWL-113	↓	0710			WI	U		✓
03	KGL-VWL-114		0750			WI	U		✓

E Rinard 11/14/11 (KM)

Comments: R.L @ 1 ug/wipe EPA 8082 PCB's by 3540C Soxhlet

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

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

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

Relinquished by: (signature)	Date/Time:
K Rinard	11/14/11 1015
Received by: (signature)	Date/Time:
Paul Racicot	11/14/11 11:44
Relinquished by: (signature)	Date/Time:
Paul Racicot	11/14/11 18:00
Received by: (signature)	Date/Time:
C. Clough-Segell S.99	11/14/11 18:00

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 day STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
AIHA

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
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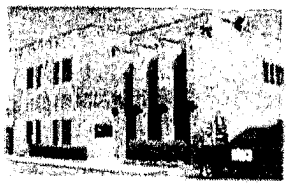

Sample Receipt Checklist

CLIENT NAME: Woodard + Curran **RECEIVED BY:** C.C-S. **DATE:** 11/14/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.9°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	1
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:

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

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

Doc# 277

Rev. 1 May 2011

11K0442-01 KGL-VWL-112

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.36	0.33062	8.51
Surrogates			
Decachlorobiphenyl	1.90	1.96513	3.37
Tetrachloro-m-xylene	1.78	1.72025	3.41

11K0442-02 KGL-VWL-113

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.89	1.96279	3.78
Tetrachloro-m-xylene	1.81	1.73971	3.96

11K0442-03 KGL-VWL-114

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.21	0.20015	4.8
Surrogates			
Tetrachloro-m-xylene	1.83	1.75982	3.91
Decachlorobiphenyl	1.93	1.96549	1.82

B041113-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.80	1.73371	3.75
Decachlorobiphenyl	1.91	1.95548	2.35

B041113-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.47	0.46151	1.82
Aroclor-1260	0.53	0.54124	2.1
Surrogates			
Decachlorobiphenyl	1.93	1.98445	2.78
Tetrachloro-m-xylene	1.82	1.76092	3.3

B041113-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.48	0.45178	6.06
Aroclor-1260	0.52	0.52009	0.0173
Surrogates			
Tetrachloro-m-xylene	1.73	1.67972	2.95
Decachlorobiphenyl	1.87	1.9144	2.35

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November 23, 2011

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

Project Location: Yale-Kline Geo Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11K0575

Enclosed are results of analyses for samples received by the laboratory on November 16, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 11/23/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K0575

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

PROJECT LOCATION: Yale-Kline Geo Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-115	11K0575-01	Wipe		SW-846 8082A	
KGL-VWB-116	11K0575-02	Wipe		SW-846 8082A	
KGL-VWC-117	11K0575-03	Wipe		SW-846 8082A	
KGL-VWC-118	11K0575-04	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

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

Project Location: Yale-Kline Geo Lab | Sample Description: | Work Order: 11K0575

Date Received: 11/16/2011

Field Sample #: KGL-VWC-115 | Sampled: 11/16/2011 06:50

Sample ID: 11K0575-01

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	11/16/11	11/17/11 21:23	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:23	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:23	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:23	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:23	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:23	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:23	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:23	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:23	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		11/17/11 21:23
Decachlorobiphenyl [2]	101	30-150		11/17/11 21:23
Tetrachloro-m-xylene [1]	91.2	30-150		11/17/11 21:23
Tetrachloro-m-xylene [2]	88.6	30-150		11/17/11 21:23

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

Project Location: Yale-Kline Geo Lab | Sample Description: | Work Order: 11K0575

Date Received: 11/16/2011

Field Sample #: KGL-VWB-116 | Sampled: 11/16/2011 07:30

Sample ID: 11K0575-02

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	11/16/11	11/17/11 21:36	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:36	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:36	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:36	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:36	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:36	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:36	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:36	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:36	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.9	30-150		11/17/11 21:36
Decachlorobiphenyl [2]	96.6	30-150		11/17/11 21:36
Tetrachloro-m-xylene [1]	91.8	30-150		11/17/11 21:36
Tetrachloro-m-xylene [2]	88.7	30-150		11/17/11 21:36

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Project Location: Yale-Kline Geo Lab | Sample Description: | Work Order: 11K0575

Date Received: 11/16/2011

Field Sample #: KGL-VWC-117 | Sampled: 11/16/2011 15:45

Sample ID: 11K0575-03

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	11/16/11	11/17/11 21:49	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:49	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:49	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:49	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:49	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:49	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:49	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:49	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 21:49	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	100	30-150		11/17/11 21:49
Decachlorobiphenyl [2]	101	30-150		11/17/11 21:49
Tetrachloro-m-xylene [1]	86.4	30-150		11/17/11 21:49
Tetrachloro-m-xylene [2]	82.4	30-150		11/17/11 21:49

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Project Location: Yale-Kline Geo Lab | Sample Description: | Work Order: 11K0575

Date Received: 11/16/2011

Field Sample #: KGL-VWC-118 | Sampled: 11/16/2011 16:00

Sample ID: 11K0575-04

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	11/16/11	11/17/11 22:02	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 22:02	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 22:02	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 22:02	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 22:02	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 22:02	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 22:02	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 22:02	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/16/11	11/17/11 22:02	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.9	30-150		11/17/11 22:02
Decachlorobiphenyl [2]	99.4	30-150		11/17/11 22:02
Tetrachloro-m-xylene [1]	87.9	30-150		11/17/11 22:02
Tetrachloro-m-xylene [2]	85.0	30-150		11/17/11 22:02

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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
11K0575-01 [KGL-VWC-115]	B041113	1.00	10.0	11/16/11
11K0575-02 [KGL-VWB-116]	B041113	1.00	10.0	11/16/11
11K0575-03 [KGL-VWC-117]	B041113	1.00	10.0	11/16/11
11K0575-04 [KGL-VWC-118]	B041113	1.00	10.0	11/16/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B041113 - SW-846 3540C										
Blank (B041113-BLK1)				Prepared: 11/16/11 Analyzed: 11/17/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.91*		µg/Wipe	2.00		95.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.96*		µg/Wipe	2.00		97.8	30-150			
Surrogate: Tetrachloro-m-xylene	*1.80*		µg/Wipe	2.00		90.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.73*		µg/Wipe	2.00		86.7	30-150			
LCS (B041113-BS1)				Prepared: 11/16/11 Analyzed: 11/17/11						
Aroclor-1016	0.47	0.20	µg/Wipe	0.500		93.6	40-140			
Aroclor-1016 [2C]	0.46	0.20	µg/Wipe	0.500		92.3	40-140			
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		105	40-140			
Aroclor-1260 [2C]	0.54	0.20	µg/Wipe	0.500		108	40-140			
Surrogate: Decachlorobiphenyl	*1.93*		µg/Wipe	2.00		96.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.98*		µg/Wipe	2.00		99.2	30-150			
Surrogate: Tetrachloro-m-xylene	*1.82*		µg/Wipe	2.00		91.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.76*		µg/Wipe	2.00		88.0	30-150			
LCS Dup (B041113-BSD1)				Prepared: 11/16/11 Analyzed: 11/17/11						
Aroclor-1016	0.48	0.20	µg/Wipe	0.500		95.6	40-140	2.01	30	
Aroclor-1016 [2C]	0.45	0.20	µg/Wipe	0.500		90.4	40-140	2.13	30	
Aroclor-1260	0.52	0.20	µg/Wipe	0.500		104	40-140	1.12	30	
Aroclor-1260 [2C]	0.52	0.20	µg/Wipe	0.500		104	40-140	3.99	30	
Surrogate: Decachlorobiphenyl	*1.87*		µg/Wipe	2.00		93.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.91*		µg/Wipe	2.00		95.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.73*		µg/Wipe	2.00		86.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.68*		µg/Wipe	2.00		84.0	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	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

11K0575

Company Name: Woodard + Curran
Address: 35 New England Business Park, Andover, MA
Attention: G. Franklin, J Hamel
Project Location: Yale - Kline Geo Lab
Sampled By: Kim Rinard (413) 531-4455

Telephone:
Project #: 224415
Client PO#:

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

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

ANALYSIS REQUESTED: EPA 8082 by 3540C

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	# of Containers	** Preservation	***Container Code	EPA 8082 by 3540C
-01	KGL-VWC-115	11/16/11	0650			WI	U				✓
-02	KGL-VWB-116	↓	0730			WI	U				✓
-03	KGL-VWC-117		1545			WI	U				✓
-04	KGL-VWC-118		1600			WI	U				✓

KAR 11/16/11

Comments: R.L's @ 1ug per wipe

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

Dissolved Metals
O Field Filtered
O Lab to Filter

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

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

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

Relinquished by: (signature)	Date/Time:
KAR K. Rinard	11/16/11 1815
Received by: (signature) S-S	Date/Time: 11/16/11 1815
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 day

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

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: RL @ 1ug/wipe

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

ACCREDITED IN ACCORDANCE WITH nelac
AIHA Environmental Lead & Industrial Hygiene

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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F: 413-525-6405
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Sample Receipt Checklist

CLIENT NAME: Woodard + Curran RECEIVED BY: C.Cs DATE: 11/16/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.5°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	1
500 mL Amber		4 oz amber/clear jar	3
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May

11K0575-01 KGL-VWC-115

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.82	1.77263	2.64
Decachlorobiphenyl	2.00	2.0135	0.673

11K0575-02 KGL-VWB-116

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.94	1.9324	0.393
Tetrachloro-m-xylene	1.84	1.77463	3.62

11K0575-03 KGL-VWC-117

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.00	2.02225	1.11
Tetrachloro-m-xylene	1.73	1.64857	4.82

11K0575-04 KGL-VWC-118

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.76	1.70028	3.45
Decachlorobiphenyl	1.94	1.98716	2.4

B041113-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.80	1.73371	3.75
Decachlorobiphenyl	1.91	1.95548	2.35

B041113-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.47	0.46151	1.82
Aroclor-1260	0.53	0.54124	2.1
Surrogates			
Decachlorobiphenyl	1.93	1.98445	2.78
Tetrachloro-m-xylene	1.82	1.76092	3.3

B041113-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.48	0.45178	6.06
Aroclor-1260	0.52	0.52009	0.0173
Surrogates			
Tetrachloro-m-xylene	1.73	1.67972	2.95
Decachlorobiphenyl	1.87	1.9144	2.35

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December 1, 2011

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

Project Location: Yale - Kline - Geo Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11K0793

Enclosed are results of analyses for samples received by the laboratory on November 22, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 12/1/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K0793

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

PROJECT LOCATION: Yale - Kline - Geo Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-119	11K0793-01	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

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

Project Location: Yale - Kline - Geo Lab | Sample Description: | Work Order: 11K0793

Date Received: 11/22/2011

Field Sample #: KGL-VWC-119 | Sampled: 11/22/2011 06:30

Sample ID: 11K0793-01

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	11/28/11	11/29/11 18:19	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/28/11	11/29/11 18:19	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/28/11	11/29/11 18:19	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/28/11	11/29/11 18:19	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/28/11	11/29/11 18:19	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/28/11	11/29/11 18:19	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/28/11	11/29/11 18:19	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/28/11	11/29/11 18:19	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/28/11	11/29/11 18:19	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	85.2	30-150		11/29/11 18:19
Decachlorobiphenyl [2]	95.7	30-150		11/29/11 18:19
Tetrachloro-m-xylene [1]	93.9	30-150		11/29/11 18:19
Tetrachloro-m-xylene [2]	91.6	30-150		11/29/11 18:19

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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
11K0793-01 [KGL-VWC-119]	B041692	1.00	10.0	11/28/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B041692 - SW-846 3540C										
Blank (B041692-BLK1)				Prepared: 11/28/11 Analyzed: 11/29/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*1.77*		µg/Wipe	2.00		88.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.95*		µg/Wipe	2.00		97.3	30-150			
Surrogate: Tetrachloro-m-xylene	*1.90*		µg/Wipe	2.00		94.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.85*		µg/Wipe	2.00		92.5	30-150			
LCS (B041692-BS1)				Prepared: 11/28/11 Analyzed: 11/29/11						
Aroclor-1016	0.46	0.20	µg/Wipe	0.500		92.2	40-140			
Aroclor-1016 [2C]	0.55	0.20	µg/Wipe	0.500		110	40-140			
Aroclor-1260	0.50	0.20	µg/Wipe	0.500		99.8	40-140			
Aroclor-1260 [2C]	0.58	0.20	µg/Wipe	0.500		115	40-140			
Surrogate: Decachlorobiphenyl	*1.76*		µg/Wipe	2.00		87.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.93*		µg/Wipe	2.00		96.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.92*		µg/Wipe	2.00		96.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.88*		µg/Wipe	2.00		93.8	30-150			
LCS Dup (B041692-BSD1)				Prepared: 11/28/11 Analyzed: 11/29/11						
Aroclor-1016	0.48	0.20	µg/Wipe	0.500		96.5	40-140	4.54	30	
Aroclor-1016 [2C]	0.57	0.20	µg/Wipe	0.500		114	40-140	3.49	30	
Aroclor-1260	0.51	0.20	µg/Wipe	0.500		102	40-140	1.90	30	
Aroclor-1260 [2C]	0.58	0.20	µg/Wipe	0.500		116	40-140	0.940	30	
Surrogate: Decachlorobiphenyl	*1.76*		µg/Wipe	2.00		87.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.93*		µg/Wipe	2.00		96.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.97*		µg/Wipe	2.00		98.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.92*		µg/Wipe	2.00		96.0	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	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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CHAIN OF CUSTODY RECORD

39 SPRUCE ST, 2ND FLOOR
EAST LONGMEADOW, MA 01028

11K0793

Company Name: WOODARD + CURRAN
Address: 35 NEW ENGLAND BUSINESS CENTER
ANDOVER, MA
Attention: JEFF HAMEL, GEORGE FRANKLIN
Project Location: YALE – KLINE – GEO LAB
Sampled By: J. REAM

Telephone:( )
Project # 224415
Client PO #

DATA DELIVERY (check one):
☐ FAX ☑ EMAIL ☐ WEBSITE CLIENT
~~Fax #~~: jhamel@woodardcurran.com
Email: gfranklin@woodardcurran.com
Format: ☑ EXCEL ☑ PDF ☐ GIS KEY

Proposal Provided? (For Billing purposes)
☐ yes _____ proposal date

Field ID	Sample Description	Lab #	Date Sampled: Start Date/Time	Stop Date/Time	Composite	Grab	*Matrix Code	PCB's 8082 by 3540C											# of containers
								1											**Preservation
								0											~Cont.Code
								6											
	KGL-VWC-119	01	11/22/11	0630		✓	WIPE	✓											

ANALYSIS REQUESTED

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

Comments:

Relinquished by: (signature)	Date/Time:	Turnaround	Detection Limit Requirements	*Matrix Code:	**Preservation Codes:
[signature]	11/22/11 12:07	☐ 24 Hour*	Regulations?	GW= groundwater	I = Iced; X = Na hydroxide
Received by: (signature) [signature]	11/22/11 12:07	☐ 48 Hour*		WW= wastewater	H = HCL; T = Na thiosulfate
Relinquished by: (signature) [signature]	11/22/11 4:38	☐ 72 Hour*	Data Enhancement Project? ☐ Y ☐ N	DW= drinking water	M = Methanol
Received by: (signature) C. Clough-Segall 3.8°C	11/22/11 16:38	☑ Std. 5 DAY	(MA MCP sites only)	A = air	N = Nitric Acid
		☐ Other**	Special Requirements or DL's:	S = soil/solid	S = Sulfuric Acid
		_____ Date needed**		SL = sludge	B = Sodium bisulfate
		*Require lab approval.		O = other	O = Other

Con-Test Laboratory is the ONLY independent laboratory in all of New England with both prestigious AIHA and NELAC Certifications!

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Sample Receipt Checklist

CLIENT NAME: Woodard + Curran **RECEIVED BY:** C.C.S. **DATE:** 11/22/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 3.8°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

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

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May

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December 5, 2011

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

Project Location: Yale-Kline Geo
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11K0892

Enclosed are results of analyses for samples received by the laboratory on November 28, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

REPORT DATE: 12/5/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K0892

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

PROJECT LOCATION: Yale-Kline Geo

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VBR-119	11K0892-01	Product/Solid		SW-846 8082A	
KGL-VWC-120	11K0892-02	Wipe		SW-846 8082A	
KGL-VWC-121	11K0892-03	Wipe		SW-846 8082A	
KGL-VWC-122	11K0892-04	Wipe		SW-846 8082A	
KGL-VWC-123	11K0892-05	Wipe		SW-846 8082A	
KGL-VWD-124	11K0892-06	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.

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

B041778-MS1, B041778-MSD1

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

Analyte & Samples(s) Qualified:

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

11K0892-01[KGL-VBR-119]

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

Michael A. Erickson
Laboratory Director

con-test® ANALYTICAL LABORATORY

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0892

Date Received: 11/28/2011

Field Sample #: KGL-VBR-119 | Sampled: 11/23/2011 15:10

Sample ID: 11K0892-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.5	mg/Kg	50		SW-846 8082A	11/29/11	12/2/11 13:27	MJC
Aroclor-1221 [1]	ND	4.5	mg/Kg	50		SW-846 8082A	11/29/11	12/2/11 13:27	MJC
Aroclor-1232 [1]	ND	4.5	mg/Kg	50		SW-846 8082A	11/29/11	12/2/11 13:27	MJC
Aroclor-1242 [1]	ND	4.5	mg/Kg	50		SW-846 8082A	11/29/11	12/2/11 13:27	MJC
Aroclor-1248 [1]	ND	4.5	mg/Kg	50		SW-846 8082A	11/29/11	12/2/11 13:27	MJC
Aroclor-1254 [1]	49	4.5	mg/Kg	50		SW-846 8082A	11/29/11	12/2/11 13:27	MJC
Aroclor-1260 [1]	ND	4.5	mg/Kg	50		SW-846 8082A	11/29/11	12/2/11 13:27	MJC
Aroclor-1262 [1]	ND	4.5	mg/Kg	50		SW-846 8082A	11/29/11	12/2/11 13:27	MJC
Aroclor-1268 [1]	ND	4.5	mg/Kg	50		SW-846 8082A	11/29/11	12/2/11 13:27	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	12/2/11 13:27
Decachlorobiphenyl [2]	*	30-150	S-01	12/2/11 13:27
Tetrachloro-m-xylene [1]	*	30-150	S-01	12/2/11 13:27
Tetrachloro-m-xylene [2]	*	30-150	S-01	12/2/11 13:27

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0892

Date Received: 11/28/2011

Field Sample #: KGL-VWC-120 | Sampled: 11/23/2011 15:35

Sample ID: 11K0892-02

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	11/29/11	11/30/11 17:38	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:38	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:38	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:38	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:38	JMB
Aroclor-1254 [1]	0.30	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:38	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:38	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:38	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:38	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.9	30-150		11/30/11 17:38
Decachlorobiphenyl [2]	97.7	30-150		11/30/11 17:38
Tetrachloro-m-xylene [1]	86.4	30-150		11/30/11 17:38
Tetrachloro-m-xylene [2]	86.2	30-150		11/30/11 17:38

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0892

Date Received: 11/28/2011

Field Sample #: KGL-VWC-121 | Sampled: 11/23/2011 15:40

Sample ID: 11K0892-03

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	11/29/11	11/30/11 17:51	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:51	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:51	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:51	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:51	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:51	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:51	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:51	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 17:51	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.1	30-150		11/30/11 17:51
Decachlorobiphenyl [2]	96.3	30-150		11/30/11 17:51
Tetrachloro-m-xylene [1]	83.9	30-150		11/30/11 17:51
Tetrachloro-m-xylene [2]	84.3	30-150		11/30/11 17:51

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0892

Date Received: 11/28/2011

Field Sample #: KGL-VWC-122 | Sampled: 11/23/2011 15:55

Sample ID: 11K0892-04

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	11/29/11	11/30/11 18:04	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:04	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:04	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:04	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:04	JMB
Aroclor-1254 [2]	0.52	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:04	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:04	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:04	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:04	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.7	30-150		11/30/11 18:04
Decachlorobiphenyl [2]	101	30-150		11/30/11 18:04
Tetrachloro-m-xylene [1]	90.0	30-150		11/30/11 18:04
Tetrachloro-m-xylene [2]	90.5	30-150		11/30/11 18:04

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0892

Date Received: 11/28/2011

Field Sample #: KGL-VWC-123 | Sampled: 11/23/2011 16:00

Sample ID: 11K0892-05

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	11/29/11	11/30/11 18:17	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:17	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:17	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:17	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:17	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:17	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:17	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:17	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:17	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.6	30-150		11/30/11 18:17
Decachlorobiphenyl [2]	103	30-150		11/30/11 18:17
Tetrachloro-m-xylene [1]	96.3	30-150		11/30/11 18:17
Tetrachloro-m-xylene [2]	96.7	30-150		11/30/11 18:17

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Project Location: Yale-Kline Geo | Sample Description: | Work Order: 11K0892

Date Received: 11/28/2011

Field Sample #: KGL-VWD-124 | Sampled: 11/23/2011 16:05

Sample ID: 11K0892-06

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	11/29/11	11/30/11 18:30	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:30	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:30	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:30	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:30	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:30	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:30	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:30	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	11/29/11	11/30/11 18:30	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.1	30-150		11/30/11 18:30
Decachlorobiphenyl [2]	100	30-150		11/30/11 18:30
Tetrachloro-m-xylene [1]	93.3	30-150		11/30/11 18:30
Tetrachloro-m-xylene [2]	93.5	30-150		11/30/11 18:30

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11K0892-01 [KGL-VBR-119]	B041778	2.20	10.0	11/29/11

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
11K0892-02 [KGL-VWC-120]	B041789	1.00	10.0	11/29/11
11K0892-03 [KGL-VWC-121]	B041789	1.00	10.0	11/29/11
11K0892-04 [KGL-VWC-122]	B041789	1.00	10.0	11/29/11
11K0892-05 [KGL-VWC-123]	B041789	1.00	10.0	11/29/11
11K0892-06 [KGL-VWD-124]	B041789	1.00	10.0	11/29/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B041778 - SW-846 3540C										
Blank (B041778-BLK1)				Prepared: 11/29/11 Analyzed: 12/01/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.836*		mg/Kg	1.00		83.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.933*		mg/Kg	1.00		93.3	30-150			
Surrogate: Tetrachloro-m-xylene	*1.00*		mg/Kg	1.00		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.990*		mg/Kg	1.00		99.0	30-150			
LCS (B041778-BS1)				Prepared: 11/29/11 Analyzed: 12/01/11						
Aroclor-1016	0.24	0.10	mg/Kg	0.250		95.2	40-140			
Aroclor-1016 [2C]	0.28	0.10	mg/Kg	0.250		112	40-140			
Aroclor-1260	0.26	0.10	mg/Kg	0.250		102	40-140			
Aroclor-1260 [2C]	0.27	0.10	mg/Kg	0.250		109	40-140			
Surrogate: Decachlorobiphenyl	*0.882*		mg/Kg	1.00		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.988*		mg/Kg	1.00		98.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.957*		mg/Kg	1.00		95.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.948*		mg/Kg	1.00		94.8	30-150			
LCS Dup (B041778-BSD1)				Prepared: 11/29/11 Analyzed: 12/01/11						
Aroclor-1016	0.25	0.10	mg/Kg	0.250		98.6	40-140	3.51	30	
Aroclor-1016 [2C]	0.30	0.10	mg/Kg	0.250		121	40-140	7.95	30	
Aroclor-1260	0.27	0.10	mg/Kg	0.250		108	40-140	5.36	30	
Aroclor-1260 [2C]	0.30	0.10	mg/Kg	0.250		119	40-140	8.82	30	
Surrogate: Decachlorobiphenyl	*0.909*		mg/Kg	1.00		90.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.01*		mg/Kg	1.00		101	30-150			
Surrogate: Tetrachloro-m-xylene	*0.951*		mg/Kg	1.00		95.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.943*		mg/Kg	1.00		94.3	30-150			

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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 B041778 - SW-846 3540C											
Matrix Spike (B041778-MS1)		**Source: 11K0892-01**		Prepared: 11/29/11 Analyzed: 12/01/11							
Aroclor-1016	2.3	0.10	mg/Kg	0.250	0.0	**936**	*	40-140			MS-21
Aroclor-1016 [2C]	9.7	0.10	mg/Kg	0.250	0.0	**3880**	*	40-140			MS-21
Aroclor-1260	10	0.10	mg/Kg	0.250	0.0	**4020**	*	40-140			MS-21
Aroclor-1260 [2C]	9.1	0.10	mg/Kg	0.250	0.0	**3650**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.867*		mg/Kg	1.00		86.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.954*		mg/Kg	1.00		95.4		30-150			
Surrogate: Tetrachloro-m-xylene	*0.941*		mg/Kg	1.00		94.1		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.934*		mg/Kg	1.00		93.4		30-150			
Matrix Spike Dup (B041778-MSD1)		**Source: 11K0892-01**		Prepared: 11/29/11 Analyzed: 12/01/11							
Aroclor-1016	2.3	0.10	mg/Kg	0.250	0.0	**917**	*	40-140	2.08	50	MS-21
Aroclor-1016 [2C]	9.5	0.10	mg/Kg	0.250	0.0	**3790**	*	40-140	2.29	50	MS-21
Aroclor-1260	9.9	0.10	mg/Kg	0.250	0.0	**3970**	*	40-140	1.21	50	MS-21
Aroclor-1260 [2C]	8.9	0.10	mg/Kg	0.250	0.0	**3560**	*	40-140	2.46	50	MS-21
Surrogate: Decachlorobiphenyl	*0.896*		mg/Kg	1.00		89.6		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.988*		mg/Kg	1.00		98.8		30-150			
Surrogate: Tetrachloro-m-xylene	*0.946*		mg/Kg	1.00		94.6		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.934*		mg/Kg	1.00		93.4		30-150			
Batch B041789 - SW-846 3540C											
Blank (B041789-BLK1)				Prepared: 11/29/11 Analyzed: 11/30/11							
Aroclor-1016	ND	0.20	µg/Wipe								
Aroclor-1016 [2C]	ND	0.20	µg/Wipe								
Aroclor-1221	ND	0.20	µg/Wipe								
Aroclor-1221 [2C]	ND	0.20	µg/Wipe								
Aroclor-1232	ND	0.20	µg/Wipe								
Aroclor-1232 [2C]	ND	0.20	µg/Wipe								
Aroclor-1242	ND	0.20	µg/Wipe								
Aroclor-1242 [2C]	ND	0.20	µg/Wipe								
Aroclor-1248	ND	0.20	µg/Wipe								
Aroclor-1248 [2C]	ND	0.20	µg/Wipe								
Aroclor-1254	ND	0.20	µg/Wipe								
Aroclor-1254 [2C]	ND	0.20	µg/Wipe								
Aroclor-1260	ND	0.20	µg/Wipe								
Aroclor-1260 [2C]	ND	0.20	µg/Wipe								
Aroclor-1262	ND	0.20	µg/Wipe								
Aroclor-1262 [2C]	ND	0.20	µg/Wipe								
Aroclor-1268	ND	0.20	µg/Wipe								
Aroclor-1268 [2C]	ND	0.20	µg/Wipe								
Surrogate: Decachlorobiphenyl	*1.92*		µg/Wipe	2.00		95.9		30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.03*		µg/Wipe	2.00		102		30-150			
Surrogate: Tetrachloro-m-xylene	*1.87*		µg/Wipe	2.00		93.7		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.86*		µg/Wipe	2.00		93.0		30-150			

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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 B041789 - SW-846 3540C										
LCS (B041789-BS1)				Prepared: 11/29/11 Analyzed: 11/30/11						
Aroclor-1016	0.54	0.20	µg/Wipe	0.500		108	40-140			
Aroclor-1016 [2C]	0.52	0.20	µg/Wipe	0.500		105	40-140			
Aroclor-1260	0.58	0.20	µg/Wipe	0.500		116	40-140			
Aroclor-1260 [2C]	0.53	0.20	µg/Wipe	0.500		106	40-140			
Surrogate: Decachlorobiphenyl	*1.94*		µg/Wipe	2.00		97.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.05*		µg/Wipe	2.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*1.88*		µg/Wipe	2.00		94.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.88*		µg/Wipe	2.00		93.9	30-150			
LCS Dup (B041789-BSD1)				Prepared: 11/29/11 Analyzed: 11/30/11						
Aroclor-1016	0.52	0.20	µg/Wipe	0.500		105	40-140	2.40	30	
Aroclor-1016 [2C]	0.50	0.20	µg/Wipe	0.500		101	40-140	4.25	30	
Aroclor-1260	0.56	0.20	µg/Wipe	0.500		113	40-140	3.08	30	
Aroclor-1260 [2C]	0.51	0.20	µg/Wipe	0.500		103	40-140	3.46	30	
Surrogate: Decachlorobiphenyl	*1.89*		µg/Wipe	2.00		94.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.00*		µg/Wipe	2.00		100	30-150			
Surrogate: Tetrachloro-m-xylene	*1.77*		µg/Wipe	2.00		88.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.76*		µg/Wipe	2.00		87.9	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.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

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CERTIFICATIONS

Certified Analyses included in this Report

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

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

11K0892

Company Name: Woodard + Curran
Address: 35 NE. Bus Park
Andover, MA
Attention: G. Franklin, J Hamel, R. Rinard
Project Location: Yale - Kline Geo
Sampled By: R. Rinard (413) 531-4455

Project Proposal Provided? (for billing purposes)
☑ yes 20110921 proposal date

Telephone:
Project # 224415
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"

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB's by 8082 w/ 3540C	PCB's by 8082 w/ 3540C
01	RGL-VBR-119	11/23/11	1510			S		✓	
02	RGL-VWC-120	↓	1535			WI			✓
03	RGL-VWC-121	↓	1540			WI			✓
04	RGL-VWC-122	↓	1555			WI			✓
05	RGL-VWC-123	↓	1600			WI			✓
06	RGL-VWD-124	↓	1605			WI			✓
	KAR								
	Kept on ice over long weekend (KAR)	11/28/11							

ANALYSIS REQUESTED

# of Containers	1	1																	
** Preservation	I	O																	
***Container Code	G	G																	

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Comments: PCBs 8082 by Soxhlet 3540C Extraction
Wipes @ 1ug/wipe / Bulk @ ≤ 1mg/kg

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

Relinquished by: (signature)	Date/Time:
[signature] K Rinard	11/28/11 1015
Received by: (signature) [signature]	Date/Time: 11/28/11 1015
Relinquished by: (signature) [signature]	Date/Time: 11/28/11 1710
Received by: (signature) [signature] 3.1	Date/Time: 11/28 1710

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 Day STD

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

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: Wipes @ 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

†† 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
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F: 413-525-6405
www.contestlabs.com

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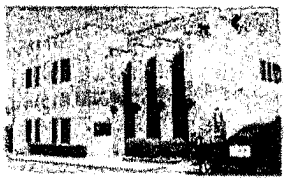

Sample Receipt Checklist

CLIENT NAME: Woodard + Curran **RECEIVED BY:** SD **DATE:** 11/28/17

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 3.1

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	6
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May

11K0892-01 KGL-VBR-119

Analyte	Results		%RPD
Aroclor-1254	49	43.90568	11

11K0892-02 KGL-VWC-120

Analyte	Results		%RPD
Aroclor-1254	0.30	0.27971	7
Surrogates			
Decachlorobiphenyl	1.84	1.9537	5.99
Tetrachloro-m-xylene	1.73	1.72366	0.367

11K0892-03 KGL-VWC-121

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.82	1.92622	5.67
Tetrachloro-m-xylene	1.68	1.68508	0.302

11K0892-04 KGL-VWC-122

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.52	0.45742	12.8
Surrogates			
Decachlorobiphenyl	1.91	2.02648	5.92
Tetrachloro-m-xylene	1.80	1.80991	0.549

11K0892-05 KGL-VWC-123

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.93	2.0639	6.71
Tetrachloro-m-xylene	1.93	1.93326	0.169

11K0892-06 KGL-VWD-124

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.87	1.86932	0.0364
Decachlorobiphenyl	1.88	2.00333	6.35

B041778-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	0.836	0.93346	11
Tetrachloro-m-xylene	1.00	0.989705	1.03

B041778-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.24	0.279375	15.2
Aroclor-1260	0.26	0.272155	4.57
Surrogates			
Decachlorobiphenyl	0.882	0.987675	11.3
Tetrachloro-m-xylene	0.957	0.947805	0.965

B041778-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.25	0.3025	19
Aroclor-1260	0.27	0.297255	9.61
Surrogates			
Decachlorobiphenyl	0.909	1.01469	11
Tetrachloro-m-xylene	0.951	0.942655	0.881

B041778-MS1 Matrix Spike

Analyte	Results		%RPD
Aroclor-1016	2.3	9.697215	123
Aroclor-1260	10	9.130245	9.09

Surrogates			
Decachlorobiphenyl	0.867	0.95439	9.6
Tetrachloro-m-xylene	0.941	0.93386	0.762

B041778-MSD1 Matrix Spike Dup

Analyte	Results		%RPD
Aroclor-1260	9.9	8.90818	10.5
Aroclor-1016	2.3	9.478065	122
Surrogates			
Decachlorobiphenyl	0.896	0.988375	9.8
Tetrachloro-m-xylene	0.946	0.93428	1.25

B041789-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.87	1.85917	0.581
Decachlorobiphenyl	1.92	2.03155	5.65

B041789-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.54	0.52471	2.87
Aroclor-1260	0.58	0.53094	8.83
Surrogates			
Decachlorobiphenyl	1.94	2.04876	5.45
Tetrachloro-m-xylene	1.88	1.87761	0.127

B041789-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.52	0.50287	3.35
Aroclor-1260	0.56	0.51289	8.78
Surrogates			
Tetrachloro-m-xylene	1.77	1.75885	0.632
Decachlorobiphenyl	1.89	2.00444	5.88

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December 7, 2011

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

Project Location: Yale Univ - Kline Geo Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11K1012

Enclosed are results of analyses for samples received by the laboratory on November 30, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 12/7/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11K1012

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

PROJECT LOCATION: Yale Univ - Kline Geo Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-125	11K1012-01	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

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

Project Location: Yale Univ - Kline Geo Lab
Sample Description:
Work Order: 11K1012

Date Received: 11/30/2011

Field Sample #: KGL-VWC-125
Sampled: 11/30/2011 13:55

Sample ID: 11K1012-01

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	12/5/11	12/7/11 2:41	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/5/11	12/7/11 2:41	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/5/11	12/7/11 2:41	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/5/11	12/7/11 2:41	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/5/11	12/7/11 2:41	JMB
Aroclor-1254 [2]	0.65	0.20	µg/Wipe	1		SW-846 8082A	12/5/11	12/7/11 2:41	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/5/11	12/7/11 2:41	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/5/11	12/7/11 2:41	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/5/11	12/7/11 2:41	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	97.7	30-150		12/7/11 2:41
Decachlorobiphenyl [2]	100	30-150		12/7/11 2:41
Tetrachloro-m-xylene [1]	106	30-150		12/7/11 2:41
Tetrachloro-m-xylene [2]	108	30-150		12/7/11 2:41

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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
11K1012-01 [KGL-VWC-125]	B042172	1.00	10.0	12/05/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B042172 - SW-846 3540C										
Blank (B042172-BLK1)				Prepared: 12/05/11 Analyzed: 12/07/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.26*		µg/Wipe	2.00		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.28*		µg/Wipe	2.00		114	30-150			
Surrogate: Tetrachloro-m-xylene	*2.40*		µg/Wipe	2.00		120	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.42*		µg/Wipe	2.00		121	30-150			
LCS (B042172-BS1)				Prepared: 12/05/11 Analyzed: 12/07/11						
Aroclor-1016	0.62	0.20	µg/Wipe	0.500		124	40-140			
Aroclor-1016 [2C]	0.66	0.20	µg/Wipe	0.500		131	40-140			
Aroclor-1260	0.58	0.20	µg/Wipe	0.500		116	40-140			
Aroclor-1260 [2C]	0.63	0.20	µg/Wipe	0.500		126	40-140			
Surrogate: Decachlorobiphenyl	*2.55*		µg/Wipe	2.00		127	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.56*		µg/Wipe	2.00		128	30-150			
Surrogate: Tetrachloro-m-xylene	*2.64*		µg/Wipe	2.00		132	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.65*		µg/Wipe	2.00		132	30-150			
LCS Dup (B042172-BSD1)				Prepared: 12/05/11 Analyzed: 12/07/11						
Aroclor-1016	0.65	0.20	µg/Wipe	0.500		131	40-140	5.42	30	
Aroclor-1016 [2C]	0.69	0.20	µg/Wipe	0.500		138	40-140	4.96	30	
Aroclor-1260	0.60	0.20	µg/Wipe	0.500		119	40-140	3.22	30	
Aroclor-1260 [2C]	0.66	0.20	µg/Wipe	0.500		131	40-140	4.01	30	
Surrogate: Decachlorobiphenyl	*2.52*		µg/Wipe	2.00		126	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.54*		µg/Wipe	2.00		127	30-150			
Surrogate: Tetrachloro-m-xylene	*2.71*		µg/Wipe	2.00		136	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.73*		µg/Wipe	2.00		137	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	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

11K1012

Company Name: Woodard + Curran
Address: 35 New England Bus. Park
Andover, MA
Attention: G. Franklin, J Hamel, K. Rinard
Project Location: Yale Univ - Kline Geo Lab
Sampled By: K. Rinard

Telephone:
Project # 224415
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 20110921 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	EPA 8082 PCBs by Soxhlet	ANALYSIS REQUESTED
01	KGL-VWC-125	11/30/11	1355			W1	U	✓	

11/30/11

KAR

# of Containers	1
** Preservation	0
***Container Code	G

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Comments: EPA 8082 by 3540C Soxhlet prep R.L @ 1ug/wipe
Requested Sample ~~Receipt~~ Results by EOD Tues 12/6

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

Relinquished by: (signature)	Date/Time:
KAR K. Rinard	11/30/11 1825
Received by: (signature)	Date/Time:
Paula Blakeborough	11/30/11 1825
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5day STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: R.L. @ 1ug per 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 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
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F: 413-525-6405
www.contestlabs.com

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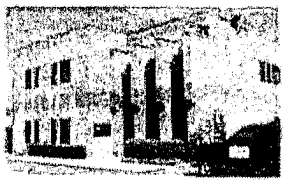

Sample Receipt Checklist

CLIENT NAME: Woodard + Curran **RECEIVED BY:** C.C.S. **DATE:** 11/30/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 6.8°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

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

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May

11K1012-01 KGL-VWC-125

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.65	0.6404	1.49
Surrogates			
Tetrachloro-m-xylene	2.13	2.16511	1.63
Decachlorobiphenyl	1.95	2.00151	2.61

B042172-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.40	2.41615	0.671
Decachlorobiphenyl	2.26	2.28228	0.981

B042172-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	0.58	0.63103	8.43
Aroclor-1016	0.62	0.65652	5.72
Surrogates			
Tetrachloro-m-xylene	2.64	2.64664	0.251
Decachlorobiphenyl	2.55	2.5589	0.348

B042172-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1260	0.60	0.65687	9.05
Aroclor-1016	0.65	0.68989	5.95
Surrogates			
Tetrachloro-m-xylene	2.71	2.73273	0.835
Decachlorobiphenyl	2.52	2.54463	0.973

con-test® ANALYTICAL LABORATORY
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December 14, 2011

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

Project Location: Yale Univ - Kline Geo
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11L0254

Enclosed are results of analyses for samples received by the laboratory on December 7, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 12/14/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11L0254

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

PROJECT LOCATION: Yale Univ - Kline Geo

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-126	11L0254-01	Wipe		SW-846 8082A	
KGL-VWC-127	11L0254-02	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

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

Project Location: Yale Univ - Kline Geo | Sample Description: | Work Order: 11L0254

Date Received: 12/7/2011

Field Sample #: KGL-VWC-126 | Sampled: 12/7/2011 13:40

Sample ID: 11L0254-01

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	12/8/11	12/9/11 18:22	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:22	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:22	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:22	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:22	MJC
Aroclor-1254 [2]	0.75	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:22	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:22	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:22	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:22	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	97.4	30-150		12/9/11 18:22
Decachlorobiphenyl [2]	98.5	30-150		12/9/11 18:22
Tetrachloro-m-xylene [1]	101	30-150		12/9/11 18:22
Tetrachloro-m-xylene [2]	103	30-150		12/9/11 18:22

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Project Location: Yale Univ - Kline Geo
Sample Description:
Work Order: 11L0254

Date Received: 12/7/2011

Field Sample #: KGL-VWC-127
Sampled: 12/7/2011 15:10

Sample ID: 11L0254-02

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	12/8/11	12/9/11 18:34	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:34	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:34	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:34	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:34	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:34	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:34	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:34	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/8/11	12/9/11 18:34	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		12/9/11 18:34
Decachlorobiphenyl [2]	101	30-150		12/9/11 18:34
Tetrachloro-m-xylene [1]	102	30-150		12/9/11 18:34
Tetrachloro-m-xylene [2]	105	30-150		12/9/11 18:34

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
11L0254-01 [KGL-VWC-126]	B042401	1.00	10.0	12/08/11
11L0254-02 [KGL-VWC-127]	B042401	1.00	10.0	12/08/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B042401 - SW-846 3540C										
Blank (B042401-BLK1)				Prepared: 12/08/11 Analyzed: 12/09/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.26*		µg/Wipe	2.00		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.22*		µg/Wipe	2.00		111	30-150			
Surrogate: Tetrachloro-m-xylene	*2.15*		µg/Wipe	2.00		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.20*		µg/Wipe	2.00		110	30-150			
LCS (B042401-BS1)				Prepared: 12/08/11 Analyzed: 12/09/11						
Aroclor-1016	0.57	0.20	µg/Wipe	0.500		115	40-140			
Aroclor-1016 [2C]	0.57	0.20	µg/Wipe	0.500		115	40-140			
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		107	40-140			
Aroclor-1260 [2C]	0.60	0.20	µg/Wipe	0.500		120	40-140			
Surrogate: Decachlorobiphenyl	*2.26*		µg/Wipe	2.00		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.23*		µg/Wipe	2.00		111	30-150			
Surrogate: Tetrachloro-m-xylene	*2.14*		µg/Wipe	2.00		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.18*		µg/Wipe	2.00		109	30-150			
LCS Dup (B042401-BSD1)				Prepared: 12/08/11 Analyzed: 12/09/11						
Aroclor-1016	0.57	0.20	µg/Wipe	0.500		113	40-140	1.47	30	
Aroclor-1016 [2C]	0.56	0.20	µg/Wipe	0.500		112	40-140	2.23	30	
Aroclor-1260	0.51	0.20	µg/Wipe	0.500		102	40-140	3.92	30	
Aroclor-1260 [2C]	0.55	0.20	µg/Wipe	0.500		110	40-140	8.54	30	
Surrogate: Decachlorobiphenyl	*2.15*		µg/Wipe	2.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.13*		µg/Wipe	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	*2.09*		µg/Wipe	2.00		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.11*		µg/Wipe	2.00		106	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	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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CHAIN OF CUSTODY RECORD

39 Spruce Street
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Page 1 of 1

11L0254

Company Name: Woodard + Curran
Address: 35 New England Business Park, Andover, MA
Attention: G. Franklin, J Hamel, K. Rinard
Project Location: Yale Univ - Kline GEO
Sampled By: K. Rinard (413) 531-4455

Telephone:
Project # 224415
Client PO#

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

Project Proposal Provided? (for billing purposes)
☑ yes 20110921 proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPA 8082 by Soxhlet											# of Containers	** Preservation	***Container Code
								1											0		G
01	KGL-VWC-126	12/7/11	1340			WI	V	✓													
02	KGL-VWC-127	↓	1510			WI	V	✓													

12/7/11

Dissolved Metals
O Field Filtered
O Lab to Filter

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

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

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

Comments: EPA 8082 by 3540C Soxhlet
RL @ 1ug per wipe

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:
Karl	12/7/11 1730
Received by: (signature) Paula Blakeborough	Date/Time: 1730 12/7/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 DAY
RUSH † STD
☐ †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 ?
O MCP Analytical Certification Form Required
O RCP Analysis Certification Form Required
O MA State DW Form Required PWSID #

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene

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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Sample Receipt Checklist

CLIENT NAME: Woodard + Curran **RECEIVED BY:** CCS **DATE:** 12/7/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 2.0°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	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:

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

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

Doc# 277

Rev. 1 Ma

11L0254-01 KGL-VWC-126

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.75	0.71821	4.33
Surrogates			
Tetrachloro-m-xylene	2.02	2.06707	2.3
Decachlorobiphenyl	1.95	1.97047	1.04

11L0254-02 KGL-VWC-127

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.05	2.09055	1.96
Decachlorobiphenyl	2.02	2.02558	0.276

B042401-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.15	2.19542	2.09
Decachlorobiphenyl	2.26	2.2248	1.57

B042401-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	0.53	0.60141	12.6
Aroclor-1016	0.57	0.57403	0.705
Surrogates			
Tetrachloro-m-xylene	2.14	2.17603	1.67
Decachlorobiphenyl	2.26	2.2278	1.44

B042401-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1260	0.51	0.55213	7.93
Aroclor-1016	0.57	0.56137	1.53
Surrogates			
Tetrachloro-m-xylene	2.09	2.11277	1.08
Decachlorobiphenyl	2.15	2.12615	1.12

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December 16, 2011

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

Project Location: Yale - Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11L0545

Enclosed are results of analyses for samples received by the laboratory on December 14, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

REPORT DATE: 12/16/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11L0545

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

PROJECT LOCATION: Yale - Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWR-129	11L0545-01	Wipe		SW-846 8082A	
KGL-VWR-130	11L0545-02	Wipe		SW-846 8082A	
KGL-VBR-127	11L0545-03	Product/Solid		SW-846 8082A	
KGL-VBR-128	11L0545-04	Product/Solid		SW-846 8082A	
KGL-VBR-131	11L0545-05	Product/Solid		SW-846 8082A	
KGL-VBB-132	11L0545-06	Product/Solid		SW-846 8082A	
KGL-VBB-133	11L0545-07	Product/Solid		SW-846 8082A	
KGL-VBR-134	11L0545-08	Product/Solid		SW-846 8082A	
KGL-VBR-135	11L0545-09	Product/Solid		SW-846 8082A	
KGL-VQ-136	11L0545-10	Water		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

REVISED REPORT - 12/16/2011 - Sample IDs -03 through -09 revised.

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

Meghan E. Kelley
Project Chemist

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VWR-129 | Sampled: 12/14/2011 09:35

Sample ID: 11L0545-01

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	0.80	µg/Wipe	4		SW-846 8082A	12/14/11	12/15/11 16:55	PJG
Aroclor-1221 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	12/14/11	12/15/11 16:55	PJG
Aroclor-1232 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	12/14/11	12/15/11 16:55	PJG
Aroclor-1242 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	12/14/11	12/15/11 16:55	PJG
Aroclor-1248 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	12/14/11	12/15/11 16:55	PJG
Aroclor-1254 [1]	2.4	0.80	µg/Wipe	4		SW-846 8082A	12/14/11	12/15/11 16:55	PJG
Aroclor-1260 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	12/14/11	12/15/11 16:55	PJG
Aroclor-1262 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	12/14/11	12/15/11 16:55	PJG
Aroclor-1268 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	12/14/11	12/15/11 16:55	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	106	30-150		12/15/11 16:55
Decachlorobiphenyl [2]	108	30-150		12/15/11 16:55
Tetrachloro-m-xylene [1]	103	30-150		12/15/11 16:55
Tetrachloro-m-xylene [2]	107	30-150		12/15/11 16:55

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VWR-130
Sampled: 12/14/2011 09:40

Sample ID: 11L0545-02

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	12/14/11	12/15/11 17:08	PJG
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/14/11	12/15/11 17:08	PJG
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/14/11	12/15/11 17:08	PJG
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/14/11	12/15/11 17:08	PJG
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/14/11	12/15/11 17:08	PJG
Aroclor-1254 [1]	0.62	0.20	µg/Wipe	1		SW-846 8082A	12/14/11	12/15/11 17:08	PJG
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/14/11	12/15/11 17:08	PJG
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/14/11	12/15/11 17:08	PJG
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	12/14/11	12/15/11 17:08	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	112	30-150		12/15/11 17:08
Decachlorobiphenyl [2]	107	30-150		12/15/11 17:08
Tetrachloro-m-xylene [1]	106	30-150		12/15/11 17:08
Tetrachloro-m-xylene [2]	107	30-150		12/15/11 17:08

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VBR-127 | Sampled: 12/14/2011 08:20

Sample ID: 11L0545-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	12/14/11	12/15/11 17:21	PJG
Aroclor-1221 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	12/14/11	12/15/11 17:21	PJG
Aroclor-1232 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	12/14/11	12/15/11 17:21	PJG
Aroclor-1242 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	12/14/11	12/15/11 17:21	PJG
Aroclor-1248 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	12/14/11	12/15/11 17:21	PJG
Aroclor-1254 [1]	2.1	0.48	mg/Kg	5		SW-846 8082A	12/14/11	12/15/11 17:21	PJG
Aroclor-1260 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	12/14/11	12/15/11 17:21	PJG
Aroclor-1262 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	12/14/11	12/15/11 17:21	PJG
Aroclor-1268 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	12/14/11	12/15/11 17:21	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	108	30-150		12/15/11 17:21
Decachlorobiphenyl [2]	111	30-150		12/15/11 17:21
Tetrachloro-m-xylene [1]	102	30-150		12/15/11 17:21
Tetrachloro-m-xylene [2]	109	30-150		12/15/11 17:21

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VBR-128 | Sampled: 12/14/2011 08:35

Sample ID: 11L0545-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:34	PJG
Aroclor-1221 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:34	PJG
Aroclor-1232 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:34	PJG
Aroclor-1242 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:34	PJG
Aroclor-1248 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:34	PJG
Aroclor-1254 [2]	8.5	1.9	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:34	PJG
Aroclor-1260 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:34	PJG
Aroclor-1262 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:34	PJG
Aroclor-1268 [1]	ND	1.9	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:34	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	114	30-150		12/15/11 17:34
Decachlorobiphenyl [2]	121	30-150		12/15/11 17:34
Tetrachloro-m-xylene [1]	100	30-150		12/15/11 17:34
Tetrachloro-m-xylene [2]	115	30-150		12/15/11 17:34

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VBR-131 | Sampled: 12/14/2011 11:00

Sample ID: 11L0545-05

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:46	PJG
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:46	PJG
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:46	PJG
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:46	PJG
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:46	PJG
Aroclor-1254 [2]	9.9	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:46	PJG
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:46	PJG
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:46	PJG
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 17:46	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	110	30-150		12/15/11 17:46
Decachlorobiphenyl [2]	115	30-150		12/15/11 17:46
Tetrachloro-m-xylene [1]	96.3	30-150		12/15/11 17:46
Tetrachloro-m-xylene [2]	111	30-150		12/15/11 17:46

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VBB-132
Sampled: 12/14/2011 11:20

Sample ID: 11L0545-06

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 17:59	PJG
Aroclor-1221 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 17:59	PJG
Aroclor-1232 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 17:59	PJG
Aroclor-1242 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 17:59	PJG
Aroclor-1248 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 17:59	PJG
Aroclor-1254 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 17:59	PJG
Aroclor-1260 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 17:59	PJG
Aroclor-1262 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 17:59	PJG
Aroclor-1268 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 17:59	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		12/15/11 17:59
Decachlorobiphenyl [2]	96.7	30-150		12/15/11 17:59
Tetrachloro-m-xylene [1]	92.9	30-150		12/15/11 17:59
Tetrachloro-m-xylene [2]	93.5	30-150		12/15/11 17:59

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VBB-133 | Sampled: 12/14/2011 11:35

Sample ID: 11L0545-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 18:12	PJG
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 18:12	PJG
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 18:12	PJG
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 18:12	PJG
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 18:12	PJG
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 18:12	PJG
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 18:12	PJG
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 18:12	PJG
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	12/14/11	12/15/11 18:12	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	104	30-150		12/15/11 18:12
Decachlorobiphenyl [2]	99.7	30-150		12/15/11 18:12
Tetrachloro-m-xylene [1]	94.7	30-150		12/15/11 18:12
Tetrachloro-m-xylene [2]	94.9	30-150		12/15/11 18:12

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VBR-134 | Sampled: 12/14/2011 13:05

Sample ID: 11L0545-08

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:25	PJG
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:25	PJG
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:25	PJG
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:25	PJG
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:25	PJG
Aroclor-1254 [1]	12	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:25	PJG
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:25	PJG
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:25	PJG
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:25	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	117	30-150		12/15/11 18:25
Decachlorobiphenyl [2]	122	30-150		12/15/11 18:25
Tetrachloro-m-xylene [1]	99.9	30-150		12/15/11 18:25
Tetrachloro-m-xylene [2]	113	30-150		12/15/11 18:25

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VBR-135 | Sampled: 12/14/2011 13:30

Sample ID: 11L0545-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:37	PJG
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:37	PJG
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:37	PJG
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:37	PJG
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:37	PJG
Aroclor-1254 [1]	12	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:37	PJG
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:37	PJG
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:37	PJG
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	12/14/11	12/15/11 18:37	PJG

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	104	30-150		12/15/11 18:37
Decachlorobiphenyl [2]	110	30-150		12/15/11 18:37
Tetrachloro-m-xylene [1]	90.4	30-150		12/15/11 18:37
Tetrachloro-m-xylene [2]	103	30-150		12/15/11 18:37

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11L0545

Date Received: 12/14/2011

Field Sample #: KGL-VQ-136 | Sampled: 12/14/2011 17:30

Sample ID: 11L0545-10

Sample Matrix: Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	12/15/11	12/15/11 14:59	MJC
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	12/15/11	12/15/11 14:59	MJC
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	12/15/11	12/15/11 14:59	MJC
Aroclor-1242 [1]	0.30	0.20	µg/L	1		SW-846 8082A	12/15/11	12/15/11 14:59	MJC
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	12/15/11	12/15/11 14:59	MJC
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	12/15/11	12/15/11 14:59	MJC
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	12/15/11	12/15/11 14:59	MJC
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	12/15/11	12/15/11 14:59	MJC
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	12/15/11	12/15/11 14:59	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	60.7	30-150		12/15/11 14:59
Decachlorobiphenyl [2]	55.1	30-150		12/15/11 14:59
Tetrachloro-m-xylene [1]	76.9	30-150		12/15/11 14:59
Tetrachloro-m-xylene [2]	76.8	30-150		12/15/11 14:59

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11L0545-03 [KGL-VBR-127]	B042790	2.10	10.0	12/14/11
11L0545-04 [KGL-VBR-128]	B042790	2.10	10.0	12/14/11
11L0545-05 [KGL-VBR-131]	B042790	2.00	10.0	12/14/11
11L0545-06 [KGL-VBB-132]	B042790	2.20	10.0	12/14/11
11L0545-07 [KGL-VBB-133]	B042790	2.00	10.0	12/14/11
11L0545-08 [KGL-VBR-134]	B042790	2.00	10.0	12/14/11
11L0545-09 [KGL-VBR-135]	B042790	2.00	10.0	12/14/11

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11L0545-10 [KGL-VQ-136]	B042800	1000	10.0	12/15/11

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
11L0545-01 [KGL-VWR-129]	B042789	1.00	10.0	12/14/11
11L0545-02 [KGL-VWR-130]	B042789	1.00	10.0	12/14/11

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B042800 - SW-846 3510C										
Blank (B042800-BLK1)				Prepared & Analyzed: 12/15/11						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*2.39*		µg/L	2.00		119	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.17*		µg/L	2.00		108	30-150			
Surrogate: Tetrachloro-m-xylene	*2.25*		µg/L	2.00		112	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.22*		µg/L	2.00		111	30-150			
LCS (B042800-BS1)				Prepared & Analyzed: 12/15/11						
Aroclor-1016	0.46	0.20	µg/L	0.500		91.6	40-140			
Aroclor-1016 [2C]	0.48	0.20	µg/L	0.500		96.9	40-140			
Aroclor-1260	0.39	0.20	µg/L	0.500		77.6	40-140			
Aroclor-1260 [2C]	0.46	0.20	µg/L	0.500		92.5	40-140			
Surrogate: Decachlorobiphenyl	*1.50*		µg/L	2.00		74.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.36*		µg/L	2.00		68.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.62*		µg/L	2.00		81.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.62*		µg/L	2.00		81.1	30-150			
LCS Dup (B042800-BSD1)				Prepared & Analyzed: 12/15/11						
Aroclor-1016	0.44	0.20	µg/L	0.500		88.7	40-140	3.13	20	
Aroclor-1016 [2C]	0.47	0.20	µg/L	0.500		94.3	40-140	2.78	20	
Aroclor-1260	0.38	0.20	µg/L	0.500		75.1	40-140	3.22	20	
Aroclor-1260 [2C]	0.45	0.20	µg/L	0.500		89.9	40-140	2.88	20	
Surrogate: Decachlorobiphenyl	*1.38*		µg/L	2.00		69.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.27*		µg/L	2.00		63.5	30-150			
Surrogate: Tetrachloro-m-xylene	*1.54*		µg/L	2.00		77.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.54*		µg/L	2.00		77.2	30-150			

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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 B042789 - SW-846 3540C										
Blank (B042789-BLK1)				Prepared: 12/14/11 Analyzed: 12/15/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.32*		µg/Wipe	2.00		116	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.23*		µg/Wipe	2.00		111	30-150			
Surrogate: Tetrachloro-m-xylene	*2.35*		µg/Wipe	2.00		118	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.37*		µg/Wipe	2.00		119	30-150			
LCS (B042789-BS1)				Prepared: 12/14/11 Analyzed: 12/15/11						
Aroclor-1016	0.59	0.20	µg/Wipe	0.500		117	40-140			
Aroclor-1016 [2C]	0.60	0.20	µg/Wipe	0.500		119	40-140			
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		106	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]	*2.02*		µg/Wipe	2.00		101	30-150			
Surrogate: Tetrachloro-m-xylene	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.13*		µg/Wipe	2.00		106	30-150			
LCS Dup (B042789-BSD1)				Prepared: 12/14/11 Analyzed: 12/15/11						
Aroclor-1016	0.60	0.20	µg/Wipe	0.500		120	40-140	2.60	30	
Aroclor-1016 [2C]	0.61	0.20	µg/Wipe	0.500		122	40-140	2.16	30	
Aroclor-1260	0.56	0.20	µg/Wipe	0.500		112	40-140	6.13	30	
Aroclor-1260 [2C]	0.61	0.20	µg/Wipe	0.500		122	40-140	7.13	30	
Surrogate: Decachlorobiphenyl	*2.26*		µg/Wipe	2.00		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.17*		µg/Wipe	2.00		109	30-150			
Surrogate: Tetrachloro-m-xylene	*2.11*		µg/Wipe	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.12*		µg/Wipe	2.00		106	30-150			

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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 B042790 - SW-846 3540C										
Blank (B042790-BLK1)				Prepared: 12/14/11 Analyzed: 12/15/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*1.18*		mg/Kg	1.00		118	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.13*		mg/Kg	1.00		113	30-150			
Surrogate: Tetrachloro-m-xylene	*1.14*		mg/Kg	1.00		114	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.15*		mg/Kg	1.00		115	30-150			
LCS (B042790-BS1)				Prepared: 12/14/11 Analyzed: 12/15/11						
Aroclor-1016	0.29	0.10	mg/Kg	0.250		116	40-140			
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		118	40-140			
Aroclor-1260	0.27	0.10	mg/Kg	0.250		107	40-140			
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		117	40-140			
Surrogate: Decachlorobiphenyl	*1.11*		mg/Kg	1.00		111	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.06*		mg/Kg	1.00		106	30-150			
Surrogate: Tetrachloro-m-xylene	*1.05*		mg/Kg	1.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.05*		mg/Kg	1.00		105	30-150			
LCS Dup (B042790-BSD1)				Prepared: 12/14/11 Analyzed: 12/15/11						
Aroclor-1016	0.29	0.10	mg/Kg	0.250		115	40-140	0.949	30	
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		115	40-140	2.46	30	
Aroclor-1260	0.26	0.10	mg/Kg	0.250		103	40-140	3.27	30	
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		115	40-140	1.57	30	
Surrogate: Decachlorobiphenyl	*1.06*		mg/Kg	1.00		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.02*		mg/Kg	1.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.996*		mg/Kg	1.00		99.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.01*		mg/Kg	1.00		101	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
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC
Aroclor-1016 [2C]	CT,NH,NY,ME,NC
Aroclor-1221	CT,NH,NY,ME,NC
Aroclor-1221 [2C]	CT,NH,NY,ME,NC
Aroclor-1232	CT,NH,NY,ME,NC
Aroclor-1232 [2C]	CT,NH,NY,ME,NC
Aroclor-1242	CT,NH,NY,ME,NC
Aroclor-1242 [2C]	CT,NH,NY,ME,NC
Aroclor-1248	CT,NH,NY,ME,NC
Aroclor-1248 [2C]	CT,NH,NY,ME,NC
Aroclor-1254	CT,NH,NY,ME,NC
Aroclor-1254 [2C]	CT,NH,NY,ME,NC
Aroclor-1260	CT,NH,NY,ME,NC
Aroclor-1260 [2C]	CT,NH,NY,ME,NC
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,RI,NC,ME
Aroclor-1016 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1221	CT,NH,NY,RI,NC,ME
Aroclor-1221 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1232	CT,NH,NY,RI,NC,ME
Aroclor-1232 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1242	CT,NH,NY,RI,NC,ME
Aroclor-1242 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1248	CT,NH,NY,RI,NC,ME
Aroclor-1248 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1254	CT,NH,NY,RI,NC,ME
Aroclor-1254 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1260	CT,NH,NY,RI,NC,ME
Aroclor-1260 [2C]	CT,NH,NY,RI,NC,ME
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

RUSH!! 11L0545

Company Name: Woodard + Curran
Address: 35 New England Business Center
Andover, MA 01810
Attention: J Hamel, G. Franklin, K Rinard
Project Location: Yale Univ - Kline Geo
Sampled By: K. Rinard (413)531-4455

Telephone: Requested for Fri 12/16/11
Project # 224415 (if possible)
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 20110921 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	EPA 8082 by 3540C Soxhlet	EPA 8082 by 3540C Soxhlet	EPA 8082
								1	1	1
								O	I	I
								G	G	G
-01	KGL-VWR-129	12/14/11	0935			WI	U	✓		
-02	KGL-VWR-130	↓	0940			WI	U	✓		
-03	KGL-VBR-127	↓	0820		⊛	BR			✓	
-04	KGL-VBR-128	↓	0835		⊛	BR			✓	
-05	KGL-VBR~~S~~-131 12/14/11	12/14/11	1100		⊛	BR			✓	
-06	KGL-VBB-132	↓	1120		⊛	BB			✓	
-07	KGL-VBB-133	↓	1135		⊛	BB			✓	
-08	KGL-VBR-134	↓	1305			BR			✓	
-09	KGL-VBR-135	12/14/11	1330			BR			✓	
-10	KGL-VQ-136	12/14/11	1720			AQ				✓

ANALYSIS REQUESTED

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Comments: EPA 8082 PCBs by Soxhlet Extraction (3540C)
(RL 1ug/wipe)(RL ≤ 1mg/kg Bulk) BB= Bulk Brick ← ⊛ MATRIX
BR= Bulk Brownstone ←

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) K Rinard	Date/Time: 12/14/11 1730
Received by: (signature) 2.8c	Date/Time: 12/14/11 1730
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ ~~Other~~ 5 day KAR 12/14/11 noon!
RUSH† ~~STD~~
☐ †24-Hr ☒ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: RL 1ug/wipe + 1mg/kg Bulk

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

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
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F: 413-525-6405
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Sample Receipt Checklist

CLIENT NAME: Woodard & Curran **RECEIVED BY:** CFC **DATE:** 12/14/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 2-8c

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	1	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	2
250 mL Amber (8oz amber)		2 oz amber/clear jar	7
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

11L0545-01 KGL-VWR-129

Analyte	Results		%RPD
Aroclor-1254	2.4	2.3384	2.6
Surrogates			
Decachlorobiphenyl	2.12	2.15544	1.66
Tetrachloro-m-xylene	2.06	2.14544	4.06

11L0545-02 KGL-VWR-130

Analyte	Results		%RPD
Aroclor-1254	0.62	0.54911	12.1
Surrogates			
Decachlorobiphenyl	2.23	2.14284	3.99
Tetrachloro-m-xylene	2.12	2.14939	1.38

11L0545-03 KGL-VWR-127

Analyte	Results		%RPD
Aroclor-1254	2.1	2.056857	2.08
Surrogates			
Decachlorobiphenyl	1.03	1.055857	2.48
Tetrachloro-m-xylene	0.967	1.040881	7.36

11L0545-04 KGL-VWR-128

Analyte	Results		%RPD
Aroclor-1254 [2C]	8.5	8.175429	3.89
Surrogates			
Decachlorobiphenyl	1.09	1.148476	5.22
Tetrachloro-m-xylene	0.956	1.099143	13.9

11L0545-05 KGL-VWR-131

Analyte	Results		%RPD
Aroclor-1254 [2C]	9.9	9.7643	1.38
Surrogates			
Decachlorobiphenyl	1.10	1.1481	4.28
Tetrachloro-m-xylene	0.963	1.1061	13.8

11L0545-06 KGL-VWR-132

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	0.844	0.8497545	0.679
Decachlorobiphenyl	0.918	0.8792181	4.32

11L0545-07 KGL-VWR-133

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.04	0.997295	4.19
Tetrachloro-m-xylene	0.947	0.94934	0.247

11L0545-08 KGL-VWR-134

Analyte	Results		%RPD
Aroclor-1254	12	11.2302	6.63
Surrogates			
Decachlorobiphenyl	1.17	1.2216	4.32
Tetrachloro-m-xylene	0.999	1.134	12.7

11L0545-09 KGL-VWR-135

Analyte	Results		%RPD
Aroclor-1254	12	11.5581	3.75
Surrogates			
Decachlorobiphenyl	1.04	1.1018	5.77
Tetrachloro-m-xylene	0.904	1.032	13.2

11L0545-10 KGL-VQ-136

Analyte		Results	%RPD
Aroclor-1242	0.30	0.23865	22.8
Surrogates			
Tetrachloro-m-xylene	1.54	1.53608	0.255
Decachlorobiphenyl	1.21	1.10102	9.43

B042789-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	2.35	2.37295	0.972
Decachlorobiphenyl	2.32	2.22955	3.98

B042789-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	0.59	0.59594	1
Aroclor-1260	0.53	0.56645	6.65
Surrogates			
Decachlorobiphenyl	2.10	2.01686	4.04
Tetrachloro-m-xylene	2.10	2.12512	1.19

B042789-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1016	0.60	0.60897	1.48
Aroclor-1260	0.56	0.60834	8.27
Surrogates			
Decachlorobiphenyl	2.26	2.17001	4.06
Tetrachloro-m-xylene	2.11	2.12479	0.698

B042790-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.18	1.134305	3.95
Tetrachloro-m-xylene	1.14	1.14996	0.87

B042790-BS1 LCS

Analyte		Results	%RPD
Aroclor-1260	0.27	0.291925	7.8
Aroclor-1016	0.29	0.29443	1.52
Surrogates			
Decachlorobiphenyl	1.11	1.06364	4.27
Tetrachloro-m-xylene	1.05	1.05383	0.364

B042790-BSD1 LCS Dup

Analyte		Results	%RPD
Aroclor-1260	0.26	0.287375	10
Aroclor-1016	0.29	0.287285	0.941
Surrogates			
Decachlorobiphenyl	1.06	1.01627	4.21
Tetrachloro-m-xylene	0.996	1.005755	0.975

B042800-BLK1 Blank

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	2.25	2.21524	1.56
Decachlorobiphenyl	2.39	2.16516	9.87

B042800-BS1 LCS

Analyte		Results	%RPD
Aroclor-1016	0.46	0.48467	5.22
Aroclor-1260	0.39	0.46254	17
Surrogates			
Tetrachloro-m-xylene	1.62	1.62161	0.0993
Decachlorobiphenyl	1.50	1.36256	9.6

B042800-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.44	0.47137	6.88
Aroclor-1260	0.38	0.4494	16.7
Surrogates			
Tetrachloro-m-xylene	1.54	1.54454	0.294
Decachlorobiphenyl	1.38	1.2691	8.37

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December 29, 2011

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

Project Location: Yale - Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11I1101

Enclosed are results of analyses for samples received by the laboratory on September 29, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 12/29/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11I1101

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

PROJECT LOCATION: Yale - Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VBB-014	11I1101-01	Brick		SW-846 8082A	
KGL-VBT-015	11I1101-02	Product/Solid		SW-846 8082A	
KGL-VBC-016	11I1101-03	Concrete		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

REVISED REPORT - 12/29/2011 - Sample IDs for 11I1101-02 &-03 revised per clients request.

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

11I1101-02[KGL-VBT-015]

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

Meghan E. Kelley
Project Chemist

con-test® ANALYTICAL LABORATORY

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

Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11I1101

Date Received: 9/29/2011

Field Sample #: KGL-VBB-014 | Sampled: 9/29/2011 12:10

Sample ID: 11I1101-01

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/1/11	10/3/11 18:49	JMB
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/1/11	10/3/11 18:49	JMB
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/1/11	10/3/11 18:49	JMB
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/1/11	10/3/11 18:49	JMB
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/1/11	10/3/11 18:49	JMB
Aroclor-1254 [1]	0.31	0.095	mg/Kg	1		SW-846 8082A	10/1/11	10/3/11 18:49	JMB
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/1/11	10/3/11 18:49	JMB
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/1/11	10/3/11 18:49	JMB
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	10/1/11	10/3/11 18:49	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	110	30-150		10/3/11 18:49
Decachlorobiphenyl [2]	106	30-150		10/3/11 18:49
Tetrachloro-m-xylene [1]	103	30-150		10/3/11 18:49
Tetrachloro-m-xylene [2]	108	30-150		10/3/11 18:49

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

Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11I1101

Date Received: 9/29/2011

Field Sample #: KGL-VBT-015 | Sampled: 9/29/2011 15:20

Sample ID: 11I1101-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	200		SW-846 8082A	10/1/11	10/4/11 7:25	JMB
Aroclor-1221 [1]	ND	20	mg/Kg	200		SW-846 8082A	10/1/11	10/4/11 7:25	JMB
Aroclor-1232 [1]	ND	20	mg/Kg	200		SW-846 8082A	10/1/11	10/4/11 7:25	JMB
Aroclor-1242 [1]	ND	20	mg/Kg	200		SW-846 8082A	10/1/11	10/4/11 7:25	JMB
Aroclor-1248 [1]	ND	20	mg/Kg	200		SW-846 8082A	10/1/11	10/4/11 7:25	JMB
Aroclor-1254 [1]	130	20	mg/Kg	200		SW-846 8082A	10/1/11	10/4/11 7:25	JMB
Aroclor-1260 [1]	ND	20	mg/Kg	200		SW-846 8082A	10/1/11	10/4/11 7:25	JMB
Aroclor-1262 [1]	ND	20	mg/Kg	200		SW-846 8082A	10/1/11	10/4/11 7:25	JMB
Aroclor-1268 [1]	ND	20	mg/Kg	200		SW-846 8082A	10/1/11	10/4/11 7:25	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/4/11 7:25
Decachlorobiphenyl [2]	*	30-150	S-01	10/4/11 7:25
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/4/11 7:25
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/4/11 7:25

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11I1101

Date Received: 9/29/2011

Field Sample #: KGL-VBC-016
Sampled: 9/29/2011 13:30

Sample ID: 11I1101-03

Sample Matrix: Concrete

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/1/11	10/4/11 7:38	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/1/11	10/4/11 7:38	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/1/11	10/4/11 7:38	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/1/11	10/4/11 7:38	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/1/11	10/4/11 7:38	JMB
Aroclor-1254 [2]	0.17	0.10	mg/Kg	1		SW-846 8082A	10/1/11	10/4/11 7:38	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/1/11	10/4/11 7:38	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/1/11	10/4/11 7:38	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/1/11	10/4/11 7:38	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	119	30-150		10/4/11 7:38
Decachlorobiphenyl [2]	113	30-150		10/4/11 7:38
Tetrachloro-m-xylene [1]	114	30-150		10/4/11 7:38
Tetrachloro-m-xylene [2]	119	30-150		10/4/11 7:38

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11I1101-01 [KGL-VBB-014]	B038341	2.10	10.0	10/01/11
11I1101-02 [KGL-VBT-015]	B038341	2.00	10.0	10/01/11
11I1101-03 [KGL-VBC-016]	B038341	2.00	10.0	10/01/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B038341 - SW-846 3540C										
Blank (B038341-BLK1)				Prepared: 10/01/11 Analyzed: 10/03/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.992*		mg/Kg	1.00		99.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.977*		mg/Kg	1.00		97.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.961*		mg/Kg	1.00		96.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.02*		mg/Kg	1.00		102	30-150			
LCS (B038341-BS1)				Prepared: 10/01/11 Analyzed: 10/03/11						
Aroclor-1016	0.28	0.10	mg/Kg	0.250		110	40-140			
Aroclor-1016 [2C]	0.27	0.10	mg/Kg	0.250		106	40-140			
Aroclor-1260	0.26	0.10	mg/Kg	0.250		104	40-140			
Aroclor-1260 [2C]	0.27	0.10	mg/Kg	0.250		108	40-140			
Surrogate: Decachlorobiphenyl	*1.00*		mg/Kg	1.00		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.986*		mg/Kg	1.00		98.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.983*		mg/Kg	1.00		98.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.05*		mg/Kg	1.00		105	30-150			
LCS Dup (B038341-BSD1)				Prepared: 10/01/11 Analyzed: 10/03/11						
Aroclor-1016	0.27	0.10	mg/Kg	0.250		107	40-140	3.30	30	
Aroclor-1016 [2C]	0.25	0.10	mg/Kg	0.250		101	40-140	4.56	30	
Aroclor-1260	0.25	0.10	mg/Kg	0.250		100	40-140	3.86	30	
Aroclor-1260 [2C]	0.26	0.10	mg/Kg	0.250		102	40-140	5.13	30	
Surrogate: Decachlorobiphenyl	*1.01*		mg/Kg	1.00		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.993*		mg/Kg	1.00		99.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.959*		mg/Kg	1.00		95.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.02*		mg/Kg	1.00		102	30-150			

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FLAG/QUALIFIER SUMMARY

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

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CERTIFICATIONS

Certified Analyses included in this Report

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

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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CHAIN OF CUSTODY RECORD

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East longmeadow, MA 01028

Page 1 of 1

111101

Company Name: WOODARD + CURRAN
Address: 35 NEW ENGLAND BUSINESS PARK
ANDOVER, MASS
Attention: G. FRANKLIN, J Hamel
Project Location: YALE University – KLINE GEO Lab
Sampled By: Kim Rinard

Telephone:
Project # 224415
Client PO#

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

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

ANALYSIS REQUESTED: EPA 8082 w/ Soxhlet

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	# of Containers	** Preservation	***Container Code
-01	KGL-VBB-014	9/29/11	1210			B	U	✓		
-02	KGL-VBT-015	↓	1520			T	U	✓		
-03	KGL-VBC-016	↓	1330			C	U	✓		

9/29/2011

KRR

Comments: PCB's by EPA 8082 w/ Soxhlet Extraction
email to: gfranklin@woodardcurran.com
jhamel " " " "

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:
KRR	9/29/2011 1820
Received by: (signature)	Date/Time:
Paula B	9/29/2011 1820
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: Bulk @ 1mg/Kg
Wipe @ 1ug per wipe
Other:

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

B-Brick to Terrazzo floor
Ca CONCRETE

NELAC & AIHA Certified
WBE/DBE Certified

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_____

†† 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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Sample Receipt Checklist

CLIENT NAME: W+C **RECEIVED BY:** PB **DATE:** 9/29/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.9

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)	3	2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

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December 29, 2011

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

Project Location: Yale-Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0106

Enclosed are results of analyses for samples received by the laboratory on October 4, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

REPORT DATE: 12/29/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0106

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

PROJECT LOCATION: Yale-Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VBR-031	11J0106-01	Brick		SW-846 8082A	
KGL-VBR-032	11J0106-02	Brick		SW-846 8082A	
KGL-VBRD-033	11J0106-03	Brick		SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

REVISED REPORT - 12/29/2011 - Sample ID revised for 11J0106-03 per clients request.

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

B038532-MS1, B038532-MSD1

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

Analyte & Samples(s) Qualified:

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

11J0106-02[KGL-VBR-032]

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

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Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11J0106

Date Received: 10/4/2011

Field Sample #: KGL-VBR-031
Sampled: 10/4/2011 13:50

Sample ID: 11J0106-01

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 15:18	JMB
Aroclor-1221 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 15:18	JMB
Aroclor-1232 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 15:18	JMB
Aroclor-1242 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 15:18	JMB
Aroclor-1248 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 15:18	JMB
Aroclor-1254 [1]	0.71	0.091	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 15:18	JMB
Aroclor-1260 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 15:18	JMB
Aroclor-1262 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 15:18	JMB
Aroclor-1268 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 15:18	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.2	30-150		10/5/11 15:18
Decachlorobiphenyl [2]	97.5	30-150		10/5/11 15:18
Tetrachloro-m-xylene [1]	102	30-150		10/5/11 15:18
Tetrachloro-m-xylene [2]	99.1	30-150		10/5/11 15:18

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Project Location: Yale-Kline Geology Lab | Sample Description: | Work Order: 11J0106

Date Received: 10/4/2011

Field Sample #: KGL-VBR-032 | Sampled: 10/4/2011 14:00

Sample ID: 11J0106-02

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	45	mg/Kg	500		SW-846 8082A	10/4/11	10/5/11 17:09	JMB
Aroclor-1221 [1]	ND	45	mg/Kg	500		SW-846 8082A	10/4/11	10/5/11 17:09	JMB
Aroclor-1232 [1]	ND	45	mg/Kg	500		SW-846 8082A	10/4/11	10/5/11 17:09	JMB
Aroclor-1242 [1]	ND	45	mg/Kg	500		SW-846 8082A	10/4/11	10/5/11 17:09	JMB
Aroclor-1248 [1]	ND	45	mg/Kg	500		SW-846 8082A	10/4/11	10/5/11 17:09	JMB
Aroclor-1254 [1]	200	45	mg/Kg	500		SW-846 8082A	10/4/11	10/5/11 17:09	JMB
Aroclor-1260 [1]	ND	45	mg/Kg	500		SW-846 8082A	10/4/11	10/5/11 17:09	JMB
Aroclor-1262 [1]	ND	45	mg/Kg	500		SW-846 8082A	10/4/11	10/5/11 17:09	JMB
Aroclor-1268 [1]	ND	45	mg/Kg	500		SW-846 8082A	10/4/11	10/5/11 17:09	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	10/5/11 17:09
Decachlorobiphenyl [2]	*	30-150	S-01	10/5/11 17:09
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/5/11 17:09
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/5/11 17:09

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Project Location: Yale-Kline Geology Lab
Sample Description:
Work Order: 11J0106

Date Received: 10/4/2011

Field Sample #: KGL-VBRD-033
Sampled: 10/4/2011 14:10

Sample ID: 11J0106-03

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 16:55	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 16:55	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 16:55	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 16:55	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 16:55	JMB
Aroclor-1254 [1]	0.82	0.10	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 16:55	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 16:55	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 16:55	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	10/4/11	10/5/11 16:55	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.1	30-150		10/5/11 16:55
Decachlorobiphenyl [2]	99.6	30-150		10/5/11 16:55
Tetrachloro-m-xylene [1]	97.7	30-150		10/5/11 16:55
Tetrachloro-m-xylene [2]	95.7	30-150		10/5/11 16:55

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0106-01 [KGL-VBR-031]	B038532	2.20	10.0	10/04/11
11J0106-02 [KGL-VBR-032]	B038532	2.20	10.0	10/04/11
11J0106-03 [KGL-VBRD-033]	B038532	2.00	10.0	10/04/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B038532 - SW-846 3540C										
Blank (B038532-BLK1)				Prepared: 10/04/11 Analyzed: 10/05/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.980*		mg/Kg	1.00		98.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.997*		mg/Kg	1.00		99.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.967*		mg/Kg	1.00		96.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.937*		mg/Kg	1.00		93.7	30-150			
LCS (B038532-BS1)				Prepared: 10/04/11 Analyzed: 10/05/11						
Aroclor-1016	0.28	0.10	mg/Kg	0.250		112	40-140			
Aroclor-1016 [2C]	0.29	0.10	mg/Kg	0.250		118	40-140			
Aroclor-1260	0.28	0.10	mg/Kg	0.250		111	40-140			
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		114	40-140			
Surrogate: Decachlorobiphenyl	*0.975*		mg/Kg	1.00		97.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.00*		mg/Kg	1.00		100	30-150			
Surrogate: Tetrachloro-m-xylene	*1.05*		mg/Kg	1.00		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.02*		mg/Kg	1.00		102	30-150			
LCS Dup (B038532-BSD1)				Prepared: 10/04/11 Analyzed: 10/05/11						
Aroclor-1016	0.27	0.10	mg/Kg	0.250		107	40-140	4.46	30	
Aroclor-1016 [2C]	0.28	0.10	mg/Kg	0.250		111	40-140	5.62	30	
Aroclor-1260	0.29	0.10	mg/Kg	0.250		116	40-140	3.64	30	
Aroclor-1260 [2C]	0.29	0.10	mg/Kg	0.250		115	40-140	0.988	30	
Surrogate: Decachlorobiphenyl	*0.985*		mg/Kg	1.00		98.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.02*		mg/Kg	1.00		102	30-150			
Surrogate: Tetrachloro-m-xylene	*1.01*		mg/Kg	1.00		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.978*		mg/Kg	1.00		97.8	30-150			

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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 B038532 - SW-846 3540C											
Matrix Spike (B038532-MS1)		**Source: 11J0106-01**		Prepared: 10/04/11 Analyzed: 10/05/11							
Aroclor-1016	0.22	0.087	mg/Kg	0.217	0.0	101		40-140			
Aroclor-1016 [2C]	0.35	0.087	mg/Kg	0.217	0.0	**160**	*	40-140			MS-21
Aroclor-1260	0.47	0.087	mg/Kg	0.217	0.0	**216**	*	40-140			MS-21
Aroclor-1260 [2C]	0.52	0.087	mg/Kg	0.217	0.0	**239**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.754*		mg/Kg	0.870		86.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.785*		mg/Kg	0.870		90.3		30-150			
Surrogate: Tetrachloro-m-xylene	*0.787*		mg/Kg	0.870		90.5		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.770*		mg/Kg	0.870		88.5		30-150			
Matrix Spike Dup (B038532-MSD1)		**Source: 11J0106-01**		Prepared: 10/04/11 Analyzed: 10/05/11							
Aroclor-1016	0.24	0.087	mg/Kg	0.217	0.0	110		40-140	8.42	50	
Aroclor-1016 [2C]	0.31	0.087	mg/Kg	0.217	0.0	**142**	*	40-140	11.9	50	MS-21
Aroclor-1260	0.46	0.087	mg/Kg	0.217	0.0	**212**	*	40-140	1.84	50	MS-21
Aroclor-1260 [2C]	0.51	0.087	mg/Kg	0.217	0.0	**232**	*	40-140	2.59	50	MS-21
Surrogate: Decachlorobiphenyl	*0.860*		mg/Kg	0.870		99.0		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.888*		mg/Kg	0.870		102		30-150			
Surrogate: Tetrachloro-m-xylene	*0.880*		mg/Kg	0.870		101		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.853*		mg/Kg	0.870		98.1		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.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

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CERTIFICATIONS

Certified Analyses included in this Report

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

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

11J0106

Company Name: Woodard & Curran
Address: 35. New England Bus Park Drive
Andover MASS
Attention: G. Franklin, J Hamel
Project Location: YALE- KLINE GEO Lab
Sampled By: Kimberly Rinard (413) 531-4455

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

Telephone:
Project # 224415
Client PO#

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

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPA 8082 PCB's w/ Soxhlet										
01	KGL-VBR-031	10/4/11	1350			O	U	✓										(Bricks) 10/4/11 Kan
02	KGL-VBR-032	↓	1400			O	U	✓										Brownstone
03	KGL-VBRD-033	↓	1410			O	U	✓										Brownstone

Kan 10/4/11

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Comments: PCB's by EPA 8082 w/ Soxhlet RL= 1mg/Kg
email- gfranklin@woodardcurran.com, jhamel@woodardcurran.com

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)	10/4/11 1830
Received by: (signature) [signature]	Date/Time: 1830 10/4/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 DAY STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut: RL= 1mg/Kg
Other:

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

ACCREDITED IN ACCORDANCE WITH nelac
ACCREDITED LABORATORY AIHA Environmental Lead & Industrial Hygiene See alhaloap.org for details

NELAC & AIHA Certified
WBE/DBE Certified

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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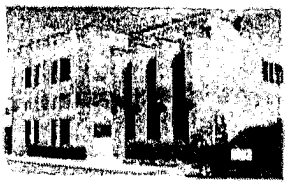

Sample Receipt Checklist

CLIENT NAME: Woodward and Curran **RECEIVED BY:** C.C.-S. **DATE:** 10/4/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 2.9

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

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	3
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

11J0106-01 KGL-VBR-031

Analyte	Results		%RPD
Aroclor-1254	0.71	0.597909	17.1
Surrogates			
Decachlorobiphenyl	0.857	0.8865363	3.39
Tetrachloro-m-xylene	0.926	0.9009727	2.74

11J0106-02 KGL-VBR-032

Analyte	Results		%RPD
Aroclor-1254	200	194.5682	2.75

11J0106-03 KGL-VBR-033

Analyte	Results		%RPD
Aroclor-1254	0.82	0.740735	10.2
Surrogates			
Decachlorobiphenyl	0.961	0.99646	3.62
Tetrachloro-m-xylene	0.977	0.956795	2.09

B038532-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	0.980	0.996645	1.68
Tetrachloro-m-xylene	0.967	0.93697	3.15

B038532-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.28	0.29467	5.11
Aroclor-1260	0.28	0.28516	1.83
Surrogates			
Tetrachloro-m-xylene	1.05	1.02306	2.6
Decachlorobiphenyl	0.975	1.00003	2.53

B038532-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1260	0.29	0.28799	0.696
Aroclor-1016	0.27	0.278575	3.13
Surrogates			
Decachlorobiphenyl	0.985	1.015875	3.09
Tetrachloro-m-xylene	1.01	0.978155	3.2

B038532-MS1 Matrix Spike

Analyte	Results		%RPD
Aroclor-1016	0.22	0.3482305	45.1
Aroclor-1260	0.47	0.5185087	9.81
Surrogates			
Decachlorobiphenyl	0.754	0.7852522	4.06
Tetrachloro-m-xylene	0.787	0.7696391	2.23

B038532-MSD1 Matrix Spike Dup

Analyte	Results		%RPD
Aroclor-1016	0.24	0.3091652	25.2
Aroclor-1260	0.46	0.5052261	9.37
Surrogates			
Tetrachloro-m-xylene	0.880	0.852687	3.15
Decachlorobiphenyl	0.860	0.8883348	3.24

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December 29, 2011

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

Project Location: Yale Kline Geo Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J0768

Enclosed are results of analyses for samples received by the laboratory on October 20, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 12/29/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0768

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

PROJECT LOCATION: Yale Kline Geo Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-063	11J0768-01	Wipe		SW-846 8082A	
KGL-VWB-064	11J0768-02	Wipe		SW-846 8082A	
KGL-VW-065	11J0768-03	Wipe	Interior Rm 313	SW-846 8082A	
KGL-VW-066	11J0768-04	Wipe	Interior Rm 312	SW-846 8082A	

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CASE NARRATIVE SUMMARY

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

REVISED REPORT - 12/29/2011 - Sample IDs revised for 11J0768-02 through -04 per clients request.

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

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

Project Location: Yale Kline Geo Lab | Sample Description: | Work Order: 11J0768

Date Received: 10/20/2011

Field Sample #: KGL-VWC-063 | Sampled: 10/20/2011 10:15

Sample ID: 11J0768-01

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	10/20/11	10/21/11 18:26	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/21/11 18:26	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/21/11 18:26	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/21/11 18:26	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/21/11 18:26	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/21/11 18:26	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/21/11 18:26	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/21/11 18:26	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/21/11 18:26	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		10/21/11 18:26
Decachlorobiphenyl [2]	99.9	30-150		10/21/11 18:26
Tetrachloro-m-xylene [1]	101	30-150		10/21/11 18:26
Tetrachloro-m-xylene [2]	102	30-150		10/21/11 18:26

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

Project Location: Yale Kline Geo Lab | Sample Description: | Work Order: 11J0768

Date Received: 10/20/2011

Field Sample #: KGL-VWB-064 | Sampled: 10/20/2011 10:20

Sample ID: 11J0768-02

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	10/20/11	10/22/11 1:17	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:17	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:17	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:17	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:17	JMB
Aroclor-1254 [2]	0.34	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:17	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:17	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:17	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:17	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	97.4	30-150		10/22/11 1:17
Decachlorobiphenyl [2]	94.3	30-150		10/22/11 1:17
Tetrachloro-m-xylene [1]	99.8	30-150		10/22/11 1:17
Tetrachloro-m-xylene [2]	100	30-150		10/22/11 1:17

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

Project Location: Yale Kline Geo Lab | Sample Description: Interior Rm 313 | Work Order: 11J0768

Date Received: 10/20/2011

Field Sample #: KGL-VW-065 | Sampled: 10/20/2011 12:00

Sample ID: 11J0768-03

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	10/20/11	10/22/11 1:30	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:30	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:30	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:30	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:30	JMB
Aroclor-1254 [1]	0.67	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:30	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:30	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:30	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:30	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	98.1	30-150		10/22/11 1:30
Decachlorobiphenyl [2]	94.6	30-150		10/22/11 1:30
Tetrachloro-m-xylene [1]	99.3	30-150		10/22/11 1:30
Tetrachloro-m-xylene [2]	98.9	30-150		10/22/11 1:30

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Project Location: Yale Kline Geo Lab | Sample Description: Interior Rm 312 | Work Order: 11J0768

Date Received: 10/20/2011

Field Sample #: KGL-VW-066 | Sampled: 10/20/2011 12:00

Sample ID: 11J0768-04

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	10/20/11	10/22/11 1:42	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:42	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:42	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:42	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:42	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:42	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:42	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:42	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/20/11	10/22/11 1:42	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		10/22/11 1:42
Decachlorobiphenyl [2]	96.5	30-150		10/22/11 1:42
Tetrachloro-m-xylene [1]	103	30-150		10/22/11 1:42
Tetrachloro-m-xylene [2]	103	30-150		10/22/11 1:42

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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
11J0768-02 [KGL-VWB-064]	B039581	1.00	10.0	10/20/11
11J0768-03 [KGL-VW-065]	B039581	1.00	10.0	10/20/11
11J0768-04 [KGL-VW-066]	B039581	1.00	10.0	10/20/11

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
11J0768-01 [KGL-VWC-063]	B039592	1.00	10.0	10/20/11

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039581 - SW-846 3540C										
Blank (B039581-BLK1)				Prepared: 10/20/11 Analyzed: 10/21/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.15*		µg/Wipe	2.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene	*2.12*		µg/Wipe	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.14*		µg/Wipe	2.00		107	30-150			
LCS (B039581-BS1)				Prepared: 10/20/11 Analyzed: 10/21/11						
Aroclor-1016	0.50	0.20	µg/Wipe	0.500		100	40-140			
Aroclor-1016 [2C]	0.54	0.20	µg/Wipe	0.500		109	40-140			
Aroclor-1260	0.53	0.20	µg/Wipe	0.500		107	40-140			
Aroclor-1260 [2C]	0.51	0.20	µg/Wipe	0.500		103	40-140			
Surrogate: Decachlorobiphenyl	*2.13*		µg/Wipe	2.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.07*		µg/Wipe	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*1.95*		µg/Wipe	2.00		97.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.99*		µg/Wipe	2.00		99.6	30-150			
LCS Dup (B039581-BSD1)				Prepared: 10/20/11 Analyzed: 10/21/11						
Aroclor-1016	0.54	0.20	µg/Wipe	0.500		109	40-140	8.10	30	
Aroclor-1016 [2C]	0.59	0.20	µg/Wipe	0.500		117	40-140	7.81	30	
Aroclor-1260	0.55	0.20	µg/Wipe	0.500		110	40-140	3.24	30	
Aroclor-1260 [2C]	0.53	0.20	µg/Wipe	0.500		106	40-140	3.08	30	
Surrogate: Decachlorobiphenyl	*2.12*		µg/Wipe	2.00		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.06*		µg/Wipe	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*2.05*		µg/Wipe	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.09*		µg/Wipe	2.00		105	30-150			

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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 B039592 - SW-846 3540C										
Blank (B039592-BLK1)				Prepared: 10/20/11 Analyzed: 10/21/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.16*		µg/Wipe	2.00		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Tetrachloro-m-xylene	*1.97*		µg/Wipe	2.00		98.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.00*		µg/Wipe	2.00		100	30-150			
LCS (B039592-BS1)				Prepared: 10/20/11 Analyzed: 10/21/11						
Aroclor-1016	0.57	0.20	µg/Wipe	0.500		114	40-140			
Aroclor-1016 [2C]	0.57	0.20	µg/Wipe	0.500		114	40-140			
Aroclor-1260	0.54	0.20	µg/Wipe	0.500		108	40-140			
Aroclor-1260 [2C]	0.51	0.20	µg/Wipe	0.500		102	40-140			
Surrogate: Decachlorobiphenyl	*2.14*		µg/Wipe	2.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.07*		µg/Wipe	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*2.11*		µg/Wipe	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.14*		µg/Wipe	2.00		107	30-150			
LCS Dup (B039592-BSD1)				Prepared: 10/20/11 Analyzed: 10/21/11						
Aroclor-1016	0.56	0.20	µg/Wipe	0.500		111	40-140	2.21	30	
Aroclor-1016 [2C]	0.56	0.20	µg/Wipe	0.500		113	40-140	0.911	30	
Aroclor-1260	0.54	0.20	µg/Wipe	0.500		108	40-140	0.861	30	
Aroclor-1260 [2C]	0.52	0.20	µg/Wipe	0.500		105	40-140	3.02	30	
Surrogate: Decachlorobiphenyl	*2.13*		µg/Wipe	2.00		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.07*		µg/Wipe	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*1.96*		µg/Wipe	2.00		97.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.00*		µg/Wipe	2.00		100	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	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

11J0768

Company Name: WOODARD + CURRAN
Address: 35 NEW ENGLAND BUSINESS PARK
ANDOVER, MASS
Attention: G. FRANKLIN, J. HAMEL
Project Location: YALE - KLINE GEO LAB
Sampled By: Kim Rinard (413) 531-4455

Telephone:
Project # 224415
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 20110921 proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB's by 8082/3540C	# of Containers	** Preservation	***Container Code	Dissolved Metals (Field Filtered / Lab to Filter)	
01	KGL-VWC-063	10/20/11	1015			WI		✓					
02	KGL-VWB-064	↓	1020			WI		✓					
03	KGL-VW-065		1200			WI		✓				INTERIOR (RM 313)	
04	KGL-VW-066	↓	1215			WI		✓				INTERIOR (RM 312)	

Comments: PCB's by EPA 8082 w/ 3540C Soxhlet prep
R.L @ 1ug/wipe

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] 10/20/11 1800	10/20/11 1800
Received by: (signature) [signature]	Date/Time: 1800 10/20/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

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

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: R.L. 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
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 HEXANE

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

†† 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 + Curran **RECEIVED BY:** PB **DATE:** 10/20/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 3.5

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	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:

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

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

Doc# 277

Rev. 1 M

11J0768-01 KGL-VWC-063

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.02	2.03718	0.847
Decachlorobiphenyl	2.01	1.99721	0.638

11J0768-02 KGL-VWC-064

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.34	0.28818	16.5
Surrogates			
Decachlorobiphenyl	1.95	1.88517	3.38
Tetrachloro-m-xylene	2.00	2.0048	0.24

11J0768-03 KGL-VWC-065

Analyte	Results		%RPD
Aroclor-1254	0.67	0.5883	13
Surrogates			
Decachlorobiphenyl	1.96	1.89163	3.55
Tetrachloro-m-xylene	1.99	1.97801	0.604

11J0768-04 KGL-VWC-066

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.02	1.92924	4.6
Tetrachloro-m-xylene	2.07	2.06046	0.462

B039581-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.15	2.09752	2.47
Tetrachloro-m-xylene	2.12	2.13662	0.781

B039581-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.50	0.54262	8.18
Aroclor-1260	0.53	0.51322	3.22
Surrogates			
Tetrachloro-m-xylene	1.95	1.99192	2.13
Decachlorobiphenyl	2.13	2.06696	3

B039581-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.54	0.58674	8.3
Aroclor-1260	0.55	0.52927	3.84
Surrogates			
Decachlorobiphenyl	2.12	2.05614	3.06
Tetrachloro-m-xylene	2.05	2.09359	2.1

B039592-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.16	2.09635	2.99
Tetrachloro-m-xylene	1.97	2.00017	1.52

B039592-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.57	0.56802	0.348
Aroclor-1260	0.54	0.50883	5.94
Surrogates			
Decachlorobiphenyl	2.14	2.06669	3.49
Tetrachloro-m-xylene	2.11	2.13738	1.29

B039592-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.56	0.56287	0.511
Aroclor-1260	0.54	0.52445	2.92
Surrogates			
Tetrachloro-m-xylene	1.96	1.99966	2
Decachlorobiphenyl	2.13	2.06839	2.93

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December 29, 2011

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

Project Location: Yale - Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 11J1080

Enclosed are results of analyses for samples received by the laboratory on October 28, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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

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

REPORT DATE: 12/29/2011

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J1080

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

PROJECT LOCATION: Yale - Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWC-081	11J1080-01	Wipe		SW-846 8082A	
KGL-VWB-082	11J1080-02	Wipe		SW-846 8082A	
KGL-VWC-083	11J1080-03	Wipe		SW-846 8082A	
KGL-VBR-084	11J1080-04	Product/Solid		SW-846 8082A	
KGL-VWC-085	11J1080-05	Wipe		SW-846 8082A	
KGL-VBB-086	11J1080-06	Brick		SW-846 8082A	
KGL-VBB-088	11J1080-07	Product/Solid		SW-846 8082A	
KGL-VBR-089	11J1080-08	Product/Solid		SW-846 8082A	
KGL-VBB-090	11J1080-09	Brick		SW-846 8082A	
KGL-VBQ-091	11J1080-10	Equipment Blank Water		SW-846 8082A	
KGL-VWB-092	11J1080-11	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.

REvISED REPORT - 12/29/2011 - Sample ID revised for 11J1080-04 per clients request.

SW-846 8082A

Qualifications:

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

Analyte & Samples(s) Qualified:

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

B040288-MSD1, B040288-MS1

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

Analyte & Samples(s) Qualified:

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

11J1080-06[KGL-VBB-086]

Surrogate recovery is outside of control limits on confirmatory column, but within control limits on primary column. Data validation is not affected.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl [2C]

11J1080-10[KGL-VBQ-091]

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

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

Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VWC-081
Sampled: 10/28/2011 07:20

Sample ID: 11J1080-01

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	10/31/11	11/3/11 1:01	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:01	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:01	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:01	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:01	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:01	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:01	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:01	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:01	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	111	30-150		11/3/11 1:01
Decachlorobiphenyl [2]	103	30-150		11/3/11 1:01
Tetrachloro-m-xylene [1]	107	30-150		11/3/11 1:01
Tetrachloro-m-xylene [2]	108	30-150		11/3/11 1:01

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VWB-082 | Sampled: 10/28/2011 07:25

Sample ID: 11J1080-02

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	10/31/11	11/3/11 1:14	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:14	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:14	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:14	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:14	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:14	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:14	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:14	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:14	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	103	30-150		11/3/11 1:14
Decachlorobiphenyl [2]	97.1	30-150		11/3/11 1:14
Tetrachloro-m-xylene [1]	97.7	30-150		11/3/11 1:14
Tetrachloro-m-xylene [2]	98.7	30-150		11/3/11 1:14

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VWC-083
Sampled: 10/28/2011 08:55

Sample ID: 11J1080-03

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	10/31/11	11/3/11 1:27	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:27	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:27	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:27	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:27	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:27	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:27	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:27	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:27	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	103	30-150		11/3/11 1:27
Decachlorobiphenyl [2]	96.5	30-150		11/3/11 1:27
Tetrachloro-m-xylene [1]	95.6	30-150		11/3/11 1:27
Tetrachloro-m-xylene [2]	95.8	30-150		11/3/11 1:27

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VBR-084 | Sampled: 10/28/2011 10:30

Sample ID: 11J1080-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 10:16	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 10:16	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 10:16	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 10:16	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 10:16	JMB
Aroclor-1254 [2]	1.2	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 10:16	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 10:16	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 10:16	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 10:16	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	97.6	30-150		11/4/11 10:16
Decachlorobiphenyl [2]	108	30-150		11/4/11 10:16
Tetrachloro-m-xylene [1]	106	30-150		11/4/11 10:16
Tetrachloro-m-xylene [2]	114	30-150		11/4/11 10:16

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VWC-085
Sampled: 10/28/2011 10:45

Sample ID: 11J1080-05

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	10/31/11	11/3/11 1:39	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:39	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:39	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:39	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:39	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:39	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:39	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:39	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:39	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	106	30-150		11/3/11 1:39
Decachlorobiphenyl [2]	99.8	30-150		11/3/11 1:39
Tetrachloro-m-xylene [1]	101	30-150		11/3/11 1:39
Tetrachloro-m-xylene [2]	102	30-150		11/3/11 1:39

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VBB-086 | Sampled: 10/28/2011 11:30

Sample ID: 11J1080-06

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	11/2/11	11/5/11 2:25	JMB
Aroclor-1221 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	11/2/11	11/5/11 2:25	JMB
Aroclor-1232 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	11/2/11	11/5/11 2:25	JMB
Aroclor-1242 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	11/2/11	11/5/11 2:25	JMB
Aroclor-1248 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	11/2/11	11/5/11 2:25	JMB
Aroclor-1254 [1]	34	5.0	mg/Kg	50		SW-846 8082A	11/2/11	11/5/11 2:25	JMB
Aroclor-1260 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	11/2/11	11/5/11 2:25	JMB
Aroclor-1262 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	11/2/11	11/5/11 2:25	JMB
Aroclor-1268 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	11/2/11	11/5/11 2:25	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	*	30-150	S-01	11/5/11 2:25
Decachlorobiphenyl [2]	*	30-150	S-01	11/5/11 2:25
Tetrachloro-m-xylene [1]	*	30-150	S-01	11/5/11 2:25
Tetrachloro-m-xylene [2]	*	30-150	S-01	11/5/11 2:25

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VBB-088 | Sampled: 10/28/2011 13:15

Sample ID: 11J1080-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/2/11	11/5/11 2:38	JMB
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/2/11	11/5/11 2:38	JMB
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/2/11	11/5/11 2:38	JMB
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/2/11	11/5/11 2:38	JMB
Aroclor-1248 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/2/11	11/5/11 2:38	JMB
Aroclor-1254 [1]	3.2	0.50	mg/Kg	5		SW-846 8082A	11/2/11	11/5/11 2:38	JMB
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/2/11	11/5/11 2:38	JMB
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/2/11	11/5/11 2:38	JMB
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	11/2/11	11/5/11 2:38	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	132	30-150		11/5/11 2:38
Decachlorobiphenyl [2]	124	30-150		11/5/11 2:38
Tetrachloro-m-xylene [1]	122	30-150		11/5/11 2:38
Tetrachloro-m-xylene [2]	128	30-150		11/5/11 2:38

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VBR-089
Sampled: 10/28/2011 13:45

Sample ID: 11J1080-08

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/2/11	11/5/11 2:51	JMB
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/2/11	11/5/11 2:51	JMB
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/2/11	11/5/11 2:51	JMB
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/2/11	11/5/11 2:51	JMB
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/2/11	11/5/11 2:51	JMB
Aroclor-1254 [1]	16	2.0	mg/Kg	20		SW-846 8082A	11/2/11	11/5/11 2:51	JMB
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/2/11	11/5/11 2:51	JMB
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/2/11	11/5/11 2:51	JMB
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	11/2/11	11/5/11 2:51	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	120	30-150		11/5/11 2:51
Decachlorobiphenyl [2]	115	30-150		11/5/11 2:51
Tetrachloro-m-xylene [1]	105	30-150		11/5/11 2:51
Tetrachloro-m-xylene [2]	116	30-150		11/5/11 2:51

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VBB-090 | Sampled: 10/28/2011 14:20

Sample ID: 11J1080-09

Sample Matrix: Brick

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 11:12	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 11:12	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 11:12	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 11:12	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 11:12	JMB
Aroclor-1254 [2]	1.0	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 11:12	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 11:12	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 11:12	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	11/2/11	11/4/11 11:12	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	102	30-150		11/4/11 11:12
Decachlorobiphenyl [2]	112	30-150		11/4/11 11:12
Tetrachloro-m-xylene [1]	107	30-150		11/4/11 11:12
Tetrachloro-m-xylene [2]	114	30-150		11/4/11 11:12

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VBQ-091
Sampled: 10/28/2011 17:00

Sample ID: 11J1080-10

Sample Matrix: Equipment Blank Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/2/11	11/4/11 20:04	PJG
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/2/11	11/4/11 20:04	PJG
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/2/11	11/4/11 20:04	PJG
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/2/11	11/4/11 20:04	PJG
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/2/11	11/4/11 20:04	PJG
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/2/11	11/4/11 20:04	PJG
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/2/11	11/4/11 20:04	PJG
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/2/11	11/4/11 20:04	PJG
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/2/11	11/4/11 20:04	PJG

Surrogates	% Recovery		Recovery Limits	Flag	
Decachlorobiphenyl [1]	31.4		30-150		11/4/11 20:04
Decachlorobiphenyl [2]	**29.8**	*	30-150	S-12	11/4/11 20:04
Tetrachloro-m-xylene [1]	86.3		30-150		11/4/11 20:04
Tetrachloro-m-xylene [2]	88.3		30-150		11/4/11 20:04

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 11J1080

Date Received: 10/28/2011

Field Sample #: KGL-VWB-092
Sampled: 10/28/2011 09:00

Sample ID: 11J1080-11

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	10/31/11	11/3/11 1:52	JMB
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:52	JMB
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:52	JMB
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:52	JMB
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:52	JMB
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:52	JMB
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:52	JMB
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:52	JMB
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	10/31/11	11/3/11 1:52	JMB

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	109	30-150		11/3/11 1:52
Decachlorobiphenyl [2]	102	30-150		11/3/11 1:52
Tetrachloro-m-xylene [1]	105	30-150		11/3/11 1:52
Tetrachloro-m-xylene [2]	106	30-150		11/3/11 1:52

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Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J1080-04 [KGL-VBR-084]	B040288	2.00	10.0	11/02/11
11J1080-06 [KGL-VBB-086]	B040288	2.00	10.0	11/02/11
11J1080-07 [KGL-VBB-088]	B040288	2.00	10.0	11/02/11
11J1080-08 [KGL-VBR-089]	B040288	2.00	10.0	11/02/11
11J1080-09 [KGL-VBB-090]	B040288	2.00	10.0	11/02/11

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11J1080-10 [KGL-VBQ-091]	B040278	1000	10.0	11/02/11

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

Lab Number [Field ID]	Batch	Initial [Wipe]	Final [mL]	Date
11J1080-01 [KGL-VWC-081]	B040135	1.00	10.0	10/31/11
11J1080-02 [KGL-VWB-082]	B040135	1.00	10.0	10/31/11
11J1080-03 [KGL-VWC-083]	B040135	1.00	10.0	10/31/11
11J1080-05 [KGL-VWC-085]	B040135	1.00	10.0	10/31/11
11J1080-11 [KGL-VWB-092]	B040135	1.00	10.0	10/31/11

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B040278 - SW-846 3510C										
Blank (B040278-BLK1)				Prepared: 11/02/11 Analyzed: 11/04/11						
Aroclor-1016	ND	0.040	µg/L							
Aroclor-1016 [2C]	ND	0.040	µg/L							
Aroclor-1221	ND	0.040	µg/L							
Aroclor-1221 [2C]	ND	0.040	µg/L							
Aroclor-1232	ND	0.040	µg/L							
Aroclor-1232 [2C]	ND	0.040	µg/L							
Aroclor-1242	ND	0.040	µg/L							
Aroclor-1242 [2C]	ND	0.040	µg/L							
Aroclor-1248	ND	0.040	µg/L							
Aroclor-1248 [2C]	ND	0.040	µg/L							
Aroclor-1254	ND	0.040	µg/L							
Aroclor-1254 [2C]	ND	0.040	µg/L							
Aroclor-1260	ND	0.040	µg/L							
Aroclor-1260 [2C]	ND	0.040	µg/L							
Aroclor-1262	ND	0.040	µg/L							
Aroclor-1262 [2C]	ND	0.040	µg/L							
Aroclor-1268	ND	0.040	µg/L							
Aroclor-1268 [2C]	ND	0.040	µg/L							
Surrogate: Decachlorobiphenyl	*0.0888*		µg/L	0.100		88.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.0863*		µg/L	0.100		86.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.0744*		µg/L	0.100		74.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0828*		µg/L	0.100		82.8	30-150			
LCS (B040278-BS1)				Prepared: 11/02/11 Analyzed: 11/04/11						
Aroclor-1016	0.46	0.20	µg/L	0.500		91.9	40-140			
Aroclor-1016 [2C]	0.39	0.20	µg/L	0.500		78.4	40-140			
Aroclor-1260	0.43	0.20	µg/L	0.500		86.8	40-140			
Aroclor-1260 [2C]	0.43	0.20	µg/L	0.500		86.0	40-140			
Surrogate: Decachlorobiphenyl	*1.69*		µg/L	2.00		84.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.58*		µg/L	2.00		78.9	30-150			
Surrogate: Tetrachloro-m-xylene	*1.59*		µg/L	2.00		79.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.66*		µg/L	2.00		82.9	30-150			
LCS Dup (B040278-BSD1)				Prepared: 11/02/11 Analyzed: 11/04/11						
Aroclor-1016	0.47	0.20	µg/L	0.500		94.5	40-140	2.79	20	
Aroclor-1016 [2C]	0.45	0.20	µg/L	0.500		89.1	40-140	12.8	20	
Aroclor-1260	0.46	0.20	µg/L	0.500		92.6	40-140	6.52	20	
Aroclor-1260 [2C]	0.47	0.20	µg/L	0.500		93.3	40-140	8.12	20	
Surrogate: Decachlorobiphenyl	*1.87*		µg/L	2.00		93.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.73*		µg/L	2.00		86.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.70*		µg/L	2.00		85.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.76*		µg/L	2.00		88.0	30-150			

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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 B040135 - SW-846 3540C										
Blank (B040135-BLK1)				Prepared: 10/31/11 Analyzed: 11/02/11						
Aroclor-1016	ND	0.20	µg/Wipe							
Aroclor-1016 [2C]	ND	0.20	µg/Wipe							
Aroclor-1221	ND	0.20	µg/Wipe							
Aroclor-1221 [2C]	ND	0.20	µg/Wipe							
Aroclor-1232	ND	0.20	µg/Wipe							
Aroclor-1232 [2C]	ND	0.20	µg/Wipe							
Aroclor-1242	ND	0.20	µg/Wipe							
Aroclor-1242 [2C]	ND	0.20	µg/Wipe							
Aroclor-1248	ND	0.20	µg/Wipe							
Aroclor-1248 [2C]	ND	0.20	µg/Wipe							
Aroclor-1254	ND	0.20	µg/Wipe							
Aroclor-1254 [2C]	ND	0.20	µg/Wipe							
Aroclor-1260	ND	0.20	µg/Wipe							
Aroclor-1260 [2C]	ND	0.20	µg/Wipe							
Aroclor-1262	ND	0.20	µg/Wipe							
Aroclor-1262 [2C]	ND	0.20	µg/Wipe							
Aroclor-1268	ND	0.20	µg/Wipe							
Aroclor-1268 [2C]	ND	0.20	µg/Wipe							
Surrogate: Decachlorobiphenyl	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.95*		µg/Wipe	2.00		97.7	30-150			
Surrogate: Tetrachloro-m-xylene	*2.05*		µg/Wipe	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.07*		µg/Wipe	2.00		103	30-150			
LCS (B040135-BS1)				Prepared: 10/31/11 Analyzed: 11/02/11						
Aroclor-1016	0.52	0.20	µg/Wipe	0.500		104	40-140			
Aroclor-1016 [2C]	0.51	0.20	µg/Wipe	0.500		101	40-140			
Aroclor-1260	0.54	0.20	µg/Wipe	0.500		109	40-140			
Aroclor-1260 [2C]	0.57	0.20	µg/Wipe	0.500		114	40-140			
Surrogate: Decachlorobiphenyl	*2.23*		µg/Wipe	2.00		111	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.07*		µg/Wipe	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*2.19*		µg/Wipe	2.00		110	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.21*		µg/Wipe	2.00		111	30-150			
LCS Dup (B040135-BSD1)				Prepared: 10/31/11 Analyzed: 11/02/11						
Aroclor-1016	0.55	0.20	µg/Wipe	0.500		110	40-140	5.50	30	
Aroclor-1016 [2C]	0.52	0.20	µg/Wipe	0.500		105	40-140	3.66	30	
Aroclor-1260	0.52	0.20	µg/Wipe	0.500		103	40-140	5.09	30	
Aroclor-1260 [2C]	0.54	0.20	µg/Wipe	0.500		108	40-140	5.23	30	
Surrogate: Decachlorobiphenyl	*2.10*		µg/Wipe	2.00		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.96*		µg/Wipe	2.00		98.2	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			

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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 B040288 - SW-846 3540C										
Blank (B040288-BLK1)				Prepared: 11/02/11 Analyzed: 11/04/11						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*1.01*		mg/Kg	1.00		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.12*		mg/Kg	1.00		112	30-150			
Surrogate: Tetrachloro-m-xylene	*0.992*		mg/Kg	1.00		99.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.05*		mg/Kg	1.00		105	30-150			
LCS (B040288-BS1)				Prepared: 11/02/11 Analyzed: 11/04/11						
Aroclor-1016	0.28	0.10	mg/Kg	0.250		112	40-140			
Aroclor-1016 [2C]	0.30	0.10	mg/Kg	0.250		121	40-140			
Aroclor-1260	0.26	0.10	mg/Kg	0.250		103	40-140			
Aroclor-1260 [2C]	0.30	0.10	mg/Kg	0.250		119	40-140			
Surrogate: Decachlorobiphenyl	*1.01*		mg/Kg	1.00		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.11*		mg/Kg	1.00		111	30-150			
Surrogate: Tetrachloro-m-xylene	*0.992*		mg/Kg	1.00		99.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.06*		mg/Kg	1.00		106	30-150			
LCS Dup (B040288-BSD1)				Prepared: 11/02/11 Analyzed: 11/04/11						
Aroclor-1016	0.28	0.10	mg/Kg	0.250		112	40-140	0.396	30	
Aroclor-1016 [2C]	0.31	0.10	mg/Kg	0.250		122	40-140	0.715	30	
Aroclor-1260	0.26	0.10	mg/Kg	0.250		103	40-140	0.509	30	
Aroclor-1260 [2C]	0.30	0.10	mg/Kg	0.250		120	40-140	0.647	30	
Surrogate: Decachlorobiphenyl	*0.989*		mg/Kg	1.00		98.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.09*		mg/Kg	1.00		109	30-150			
Surrogate: Tetrachloro-m-xylene	*0.974*		mg/Kg	1.00		97.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.04*		mg/Kg	1.00		104	30-150			

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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 B040288 - SW-846 3540C											
Matrix Spike (B040288-MS1)		**Source: 11J1080-04**		Prepared: 11/02/11 Analyzed: 11/04/11							
Aroclor-1016	0.33	0.10	mg/Kg	0.250	0.0	133		40-140			
Aroclor-1016 [2C]	0.42	0.10	mg/Kg	0.250	0.0	**168**	*	40-140			MS-21
Aroclor-1260	1.5	0.10	mg/Kg	0.250	0.0	**617**	*	40-140			MS-21
Aroclor-1260 [2C]	1.7	0.10	mg/Kg	0.250	0.0	**663**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.990*		mg/Kg	1.00		99.0		30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.09*		mg/Kg	1.00		109		30-150			
Surrogate: Tetrachloro-m-xylene	*0.969*		mg/Kg	1.00		96.9		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.03*		mg/Kg	1.00		103		30-150			
Matrix Spike Dup (B040288-MSD1)		**Source: 11J1080-04**		Prepared: 11/02/11 Analyzed: 11/04/11							
Aroclor-1016	0.36	0.10	mg/Kg	0.250	0.0	**142**	*	40-140	6.86	50	MS-21
Aroclor-1016 [2C]	0.44	0.10	mg/Kg	0.250	0.0	**176**	*	40-140	4.71	50	MS-21
Aroclor-1260	1.6	0.10	mg/Kg	0.250	0.0	**652**	*	40-140	5.56	50	MS-21
Aroclor-1260 [2C]	1.7	0.10	mg/Kg	0.250	0.0	**694**	*	40-140	4.54	50	MS-21
Surrogate: Decachlorobiphenyl	*0.997*		mg/Kg	1.00		99.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.10*		mg/Kg	1.00		110		30-150			
Surrogate: Tetrachloro-m-xylene	*1.05*		mg/Kg	1.00		105		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.11*		mg/Kg	1.00		111		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.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-12	Surrogate recovery is outside of control limits on confirmatory column, but within control limits on primary column. Data validation is not affected.

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CERTIFICATIONS

Certified Analyses included in this Report

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

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

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1
KM 10/28/11

11J1080

Company Name: Woodard + Curran
Address: 35 New England Business Park
Andover, MA
Attention: G. Franklin, J Hamel
Project Location: Yale - Kline Geo
Sampled By: Kim Rinard (413) 531-4455

Telephone:
Project # 224415
Client PO#

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

Project Proposal Provided? (for billing purposes)
☑ yes ~~209~~ 20110921 proposal date
KM 10/28

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs EPA 8082 by 3540C										
								1										
									I	O								
								G										
-01	KGL-VWC-081	10/28/11	0720			W1	U	✓		X								
-02	KGL-VWB-082		0725			W1	U	✓		X								
-03	KGL-VWC-083		0855			W1	U	✓		X								
-04	KGL-VBR-084		1030			R	U	✓	✓									
-05	KGL-VWC-085		1045			W1	U	✓		X								
-06	KGL-VBB-086		1130			B	U	✓	✓									
-07	KGL-VBB-088		1315			R	U	✓	✓									
-08	KGL-VBR-089		1345			R	U	✓	✓									
-09	KGL-VBB-090		1420			B	U	✓	✓									
-10	KGL-VBQ-091		1700			LW	U	✓	✓									

ANALYSIS REQUESTED

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

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

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

Comments: R.L. (1ug/wipe), (Solids < 1 mg/Kg)
EPA 8082 by Soxhlet Ext.

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

Relinquished by: (signature)	Date/Time:
K. Rinard	10/28/11 1720
Received by: (signature)	Date/Time:
Paula Blakeborn	10/28/11 1720
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 day STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: (1ug/wipe) Solids 1mg/Kg

Is your project MCP or RCP ?
○ MCP Analytical Certification Form Required W1 = wipe
○ RCP Analysis Certification Form Required B = Brick
○ MA State DW Form Required PWSID #
LW = lab water

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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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

11J1080

Company Name: Woodard + Curran
Address: 35 New England Bus Park
Andover, MA
Attention: See page 1
Project Location: See page 1
Sampled By: Kim Rinard

Telephone:
Project # 224415
Client PO#

KAR 10/28/11
Fax N/A

DATA DELIVERY (check all that apply)
☑ FAX ☑ EMAIL ○ WEBSITE
Fax # see page 1
Email: see page 1
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
☑ yes 20110921 proposal date

# of Containers	1
** Preservation	O
***Container Code	G

ANALYSIS REQUESTED

PCB's 8082/3540C

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB's 8082/3540C
-11	KGL-VWB-092	10/28/11	0900			WI	U	✓

10/28/11

KAR

Comments: refer to page 1 (R.L. 1ug/wipe)
All samples collected Fri 10/28/11 (per KAR)

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

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

Relinquished by: (signature)	Date/Time:
K. Rinard	10/28/11 1720
Received by: (signature)	Date/Time: 1720
Paula [signature]	10/28/11
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5day STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: 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

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

†† 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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East Longmeadow, MA. 01028
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F: 413-525-6405
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Sample Receipt Checklist

CLIENT NAME: Woodward and Curran **RECEIVED BY:** C.C-S. **DATE:** 10/28/11

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

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

If not, explain:

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

If not, explain:

4) How were the samples received:

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

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

Temperature °C by Temp blank _____ Temperature °C by Temp gun 2.6°C

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	1	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	9
250 mL Amber (8oz amber)	1	2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 May 2011

11J1080-01 KGL-VWC-081

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.14	2.15888	0.878
Decachlorobiphenyl	2.22	2.06414	7.28

11J1080-02 KGL-VWB-082

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.07	1.94216	6.37
Tetrachloro-m-xylene	1.95	1.97487	1.27

11J1080-03 KGL-VWC-083

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.05	1.93032	6.01
Tetrachloro-m-xylene	1.91	1.9162	0.324

11J1080-04 KGL-VWR-084

Analyte	Results		%RPD
Aroclor-1254 [2C]	1.2	0.95248	23
Surrogates			
Decachlorobiphenyl	0.976	1.080645	10.2
Tetrachloro-m-xylene	1.06	1.14343	7.57

11J1080-05 KGL-VWC-085

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.01	2.03604	1.29
Decachlorobiphenyl	2.13	1.99539	6.53

11J1080-06 KGL-VBB-086

Analyte	Results		%RPD
Aroclor-1254	34	32.40025	4.82

11J1080-07 KGL-VBB-088

Analyte	Results		%RPD
Aroclor-1254	3.2	2.898825	9.88
Surrogates			
Tetrachloro-m-xylene	1.22	1.2831	5.04
Decachlorobiphenyl	1.32	1.24435	5.9

11J1080-08 KGL-VBR-089

Analyte	Results		%RPD
Aroclor-1254	16	15.923	0.482
Surrogates			
Tetrachloro-m-xylene	1.05	1.1623	10.2
Decachlorobiphenyl	1.20	1.146	4.6

11J1080-09 KGL-VBB-090

Analyte	Results		%RPD
Aroclor-1254 [2C]	1.0	0.91956	8.38
Surrogates			
Decachlorobiphenyl	1.02	1.12171	9.5
Tetrachloro-m-xylene	1.07	1.14092	6.42

11J1080-10 KGL-VBQ-091

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	0.628	0.59557	5.3
Tetrachloro-m-xylene	1.73	1.76514	2.01

11J1080-11 KGL-VWB-092

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.18	2.03643	6.81
Tetrachloro-m-xylene	2.09	2.11885	1.37

B040135-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	2.10	1.95489	7.16
Tetrachloro-m-xylene	2.05	2.06735	0.843

B040135-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.52	0.50575	2.78
Aroclor-1260	0.54	0.57066	5.52
Surrogates			
Tetrachloro-m-xylene	2.19	2.21107	0.957
Decachlorobiphenyl	2.23	2.06718	7.58

B040135-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1260	0.52	0.54158	4.07
Aroclor-1016	0.55	0.5246	4.73
Surrogates			
Decachlorobiphenyl	2.10	1.96419	6.68
Tetrachloro-m-xylene	2.01	2.03641	1.31

B040278-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	0.0888	0.0863	2.86
Tetrachloro-m-xylene	0.0744	0.08282	10.7

B040278-BS1 LCS

Analyte	Results		%RPD
Aroclor-1260	0.43	0.42994	0.014
Aroclor-1016	0.46	0.39201	16
Surrogates			
Decachlorobiphenyl	1.69	1.57746	6.89
Tetrachloro-m-xylene	1.59	1.65774	4.17

B040278-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1260	0.46	0.46631	1.36
Aroclor-1016	0.47	0.44573	5.3
Surrogates			
Decachlorobiphenyl	1.87	1.73316	7.6
Tetrachloro-m-xylene	1.70	1.75931	3.43

B040288-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	0.992	1.05255	5.92
Decachlorobiphenyl	1.01	1.1171	10.1

B040288-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.28	0.30293	7.87
Aroclor-1260	0.26	0.298695	13.9
Surrogates			
Tetrachloro-m-xylene	0.992	1.0635	6.96
Decachlorobiphenyl	1.01	1.113115	9.71

B040288-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.28	0.305105	8.58
Aroclor-1260	0.26	0.300635	14.5
Surrogates			
Decachlorobiphenyl	0.989	1.093085	10
Tetrachloro-m-xylene	0.974	1.03746	6.31

B040288-MS1 Matrix Spike

Analyte	Results		%RPD
Aroclor-1016	0.33	0.4206	24.1
Aroclor-1260	1.5	1.657205	9.96
Surrogates			
Decachlorobiphenyl	0.990	1.090425	9.65
Tetrachloro-m-xylene	0.969	1.027285	5.84

B040288-MSD1 Matrix Spike Dup

Analyte	Results		%RPD
Aroclor-1016	0.36	0.440895	20.2
Aroclor-1260	1.6	1.73425	8.05
Surrogates			
Tetrachloro-m-xylene	1.05	1.109865	5.54
Decachlorobiphenyl	0.997	1.09981	9.81

YALE KLINE GEOLOGY LABORATORY - PROJECT SUMMARY

Con-Test Analytical Laboratory Job Numbers: 11H1207, 11I0877, 11I1022, 11I1101, 11J0031, 11J0058, 11J0105, 11J0106, 11J0148, 11J0213, 11J0267, 11J0340, 11J0433, 11J0522, 11J0549, 11J0652, 11J0768, 11J0878, 11J0955, 11J1080, 11K0050, 11K0196, 11K0197, 11K0313, 11K0442, 11K0575, 11K0793, 11K0892, 11K1012, 11L0254, & 11L0545

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 2.0, 2.5, 2.6, 2.8, 2.9, 3.1, 3.2, 3.5, 3.8, 4.1, 4.8, 4.9, 5.3, 5.5, 5.6, 5.9, 6.0, 6.8, 10.0, 17.1, 18.6, and 20.5 degrees Celsius. Although some samples were received above 6.0 degrees Celsius, all but the following were collected on the same day they were submitted to the laboratory: KGL-VBR-001 (11I1022-01), KGL-VBR-002 (11I1022-02), KGL-VBR-003 (11I1022-03), KGL-VBR-004 (11I1022-04), KGL-VBR-005 (11I1022-05), KGL-VBR-006 (11I1022-06), KGL-VBR-007 (11I1022-07), and KGL-VBR-008 (11I1022-08). Detected and non-detected results in samples KGL-VBR-001 (11I1022-01), KGL-VBR-002 (11I1022-02), KGL-VBR-003 (11I1022-03), KGL-VBR-004 (11I1022-04), KGL-VBR-005 (11I1022-05), KGL-VBR-006 (11I1022-06), KGL-VBR-007 (11I1022-07), and KGL-VBR-008 (11I1022-08) were estimated (J/UJ) since temperature criteria were not met. No qualifications will be applied to other samples whose temperatures exceeded the upper calibration limit since they were collected the same day they were submitted to the laboratory.

PCBs:

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

All PCB surrogates met acceptance criteria (30%-150%) or were diluted out with the following exception:

LAB ID	SAMPLE ID	TCX (%/%)	DCB (%/%)	QUALIFIER
11J1080-10	KGL-VBQ-091	OK/OK	OK/29.8	None, only one out

TCX = tetrachloro-m-xylene DCB = decachlorobiphenyl

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

PCB field blank samples KGL 106-SW/BL (11I0877-05), KGL-VBQ-060 (11J0652-02), KGL-VBQ-080 (11J0955-08), KGL-VBQ-091 (11J1080-10), and KGL-VQ-136 (11L0545-10) were ND for all target analytes with the following exception. Aroclor-1242 (0.30 µg/L) was detected above the reporting limit (RL) in sample KGL-VQ-136 (11L0545-10). Since this compound was not detected in the associated samples, no qualifications will be applied.

The PCB matrix spike/matrix spike duplicate (MS/MSD) performed on samples KGL-VBR-001 (11I1022-01), KGL-VBR-009 (11I1022-09), KGL-VBT-017 (11J0058-01), KGL-VBR-031 (11J0106-01), KGL-VBR-040 (11J0340-01), KGL-VBB-059 (11J0652-01), KGL-VBR-084 (11J1080-04), and KGL-VBR-119 (11K0892-01) met recovery (40%-140%) and relative percent difference (RPD) acceptance criteria with the following exceptions:

LAB ID	SAMPLE ID	PCB-1016 (%) MS/MS/MSD/MSD	PCB-1260 (%) MS/MS/MSD/MSD	QUALIFIER
11I1022-01	KGL-VBR-001	150/808/165/959	1060/1070/1360/1340	None, Aroclor-1254 interference
11I1022-09	KGL-VBR-009	1180/13300/991/10900	23100/19400/18900/16100	None, Aroclor-1254 interference
11J0058-01	KGL-VBT-017	OK/164/OK/161	335/442/357/447	None, Aroclor-1254 interference
11J0106-01	KGL-VBR-031	OK/160/OK/142	216/239/212/232	None, Aroclor-1254 interference
11J0340-01	KGL-VBR-040	146/2090/158/2430	2000/2550/2460/3060	None, Aroclor-1254 interference
11J1080-04	KGL-VBR-084	OK/168/142/176	617/663/652/694	None, Aroclor-1254 interference

YALE KLINE GEOLOGY LABORATORY - PROJECT SUMMARY

Con-Test Analytical Laboratory Job Numbers: 11H1207, 11I0877, 11I1022, 11I1101, 11J0031, 11J0058, 11J0105, 11J0106, 11J0148, 11J0213, 11J0267, 11J0340, 11J0433, 11J0522, 11J0549, 11J0652, 11J0768, 11J0878, 11J0955, 11J1080, 11K0050, 11K0196, 11K0197, 11K0313, 11K0442, 11K0575, 11K0793, 11K0892, 11K1012, 11L0254, & 11L0545

LAB ID	SAMPLE ID	PCB-1016 (%) MS/MS/MSD/MSD	PCB-1260 (%) MS/MS/MSD/MSD	QUALIFIER
11K0892-01	KGL-VBR-119	936/3880/917/3790	4020/3650/3970/3560	None, Aroclor-1254 interference

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

PCB field duplicate samples KGL-VBR-031 (11J0106-01)/KGL-VBRD-033 (11J0106-03), KGL-VBR-073 (11J0955-01)/KGL-VBRD-074 (11J0955-02), KGL-VWC-107 (11K0313-03)/KGL-VWCD-108 (11K0313-04), and KGL-VWC-123 (11K0892-05)/KGL-VWD-124 (11K0892-06) met acceptance criteria. No qualifications will be applied.

The RPD between the column results for all detected PCBs met acceptance criteria (≤25%) with the following exceptions:

LAB ID	SAMPLE ID	PCB	RPD	QUALIFIER
11J0148-02	KGL-VW-037	1254	30.2	J
11K0050-02	KGL-VBP-094	1254	30	J
11K0050-04	KGL-VBP-096	1254	27	J

Many samples were analyzed at a dilution due to the high concentration of PCB-1254. RL are elevated in these samples as a result of the dilutions performed.

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

Gloria J. Switalski:
President

Date: 1/14/2012

Project # 224415

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

January 20, 2012

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

Project Location: Yale - Kline Geology Lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 12A0413

Enclosed are results of analyses for samples received by the laboratory on January 13, 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: 1/20/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12A0413

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

PROJECT LOCATION: Yale - Kline Geology Lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWR-137	12A0413-01	Wipe		SW-846 8082A	
KGL-VWB-138	12A0413-02	Wipe		SW-846 8082A	
KGL-VWB-143	12A0413-07	Wipe		SW-846 8082A	
KGL-VWR-144	12A0413-08	Wipe		SW-846 8082A	
KGL-VWB-145	12A0413-09	Wipe		SW-846 8082A	
KGL-VWR-146	12A0413-10	Wipe		SW-846 8082A	
KGL-VWB-147	12A0413-11	Wipe		SW-846 8082A	
KGL-VWR-148	12A0413-12	Wipe		SW-846 8082A	
KGL-VWB-149	12A0413-13	Wipe		SW-846 8082A	
KGL-VWR-150	12A0413-14	Wipe		SW-846 8082A	
KGL-VWB-151	12A0413-15	Wipe		SW-846 8082A	
KGL-VWC-152	12A0413-16	Wipe		SW-846 8082A	
KGL-VWCD-153	12A0413-17	Wipe		SW-846 8082A	
KGL-VWBD-154	12A0413-18	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Michael A. Erickson
Laboratory Director

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

Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWR-137 | Sampled: 1/13/2012 09:34

Sample ID: 12A0413-01

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	0.40	µg/Wipe	2		SW-846 8082A	1/13/12	1/17/12 9:46	MJC
Aroclor-1221 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	1/13/12	1/17/12 9:46	MJC
Aroclor-1232 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	1/13/12	1/17/12 9:46	MJC
Aroclor-1242 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	1/13/12	1/17/12 9:46	MJC
Aroclor-1248 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	1/13/12	1/17/12 9:46	MJC
Aroclor-1254 [2]	3.2	0.40	µg/Wipe	2		SW-846 8082A	1/13/12	1/17/12 9:46	MJC
Aroclor-1260 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	1/13/12	1/17/12 9:46	MJC
Aroclor-1262 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	1/13/12	1/17/12 9:46	MJC
Aroclor-1268 [1]	ND	0.40	µg/Wipe	2		SW-846 8082A	1/13/12	1/17/12 9:46	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.5	30-150		1/17/12 9:46
Decachlorobiphenyl [2]	98.4	30-150		1/17/12 9:46
Tetrachloro-m-xylene [1]	99.2	30-150		1/17/12 9:46
Tetrachloro-m-xylene [2]	100	30-150		1/17/12 9:46

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWB-138 | Sampled: 1/13/2012 09:40

Sample ID: 12A0413-02

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	1/13/12	1/16/12 17:18	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:18	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:18	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:18	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:18	MJC
Aroclor-1254 [1]	0.56	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:18	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:18	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:18	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:18	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	92.0	30-150		1/16/12 17:18
Decachlorobiphenyl [2]	91.7	30-150		1/16/12 17:18
Tetrachloro-m-xylene [1]	99.8	30-150		1/16/12 17:18
Tetrachloro-m-xylene [2]	98.3	30-150		1/16/12 17:18

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWB-143
Sampled: 1/13/2012 11:05

Sample ID: 12A0413-07

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	1/13/12	1/16/12 17:33	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:33	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:33	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:33	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:33	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:33	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:33	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:33	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:33	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.3	30-150		1/16/12 17:33
Decachlorobiphenyl [2]	93.7	30-150		1/16/12 17:33
Tetrachloro-m-xylene [1]	103	30-150		1/16/12 17:33
Tetrachloro-m-xylene [2]	101	30-150		1/16/12 17:33

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWR-144 | Sampled: 1/13/2012 11:20

Sample ID: 12A0413-08

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	1/13/12	1/16/12 17:48	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:48	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:48	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:48	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:48	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:48	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:48	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:48	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 17:48	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.7	30-150		1/16/12 17:48
Decachlorobiphenyl [2]	93.0	30-150		1/16/12 17:48
Tetrachloro-m-xylene [1]	97.7	30-150		1/16/12 17:48
Tetrachloro-m-xylene [2]	96.3	30-150		1/16/12 17:48

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWB-145
Sampled: 1/13/2012 11:32

Sample ID: 12A0413-09

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	1/13/12	1/16/12 18:03	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:03	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:03	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:03	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:03	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:03	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:03	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:03	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:03	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.5	30-150		1/16/12 18:03
Decachlorobiphenyl [2]	95.2	30-150		1/16/12 18:03
Tetrachloro-m-xylene [1]	99.8	30-150		1/16/12 18:03
Tetrachloro-m-xylene [2]	98.4	30-150		1/16/12 18:03

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWR-146
Sampled: 1/13/2012 11:21

Sample ID: 12A0413-10

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	1/13/12	1/16/12 18:18	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:18	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:18	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:18	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:18	MJC
Aroclor-1254 [1]	1.1	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:18	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:18	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:18	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:18	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.6	30-150		1/16/12 18:18
Decachlorobiphenyl [2]	92.9	30-150		1/16/12 18:18
Tetrachloro-m-xylene [1]	95.0	30-150		1/16/12 18:18
Tetrachloro-m-xylene [2]	94.3	30-150		1/16/12 18:18

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWB-147 | Sampled: 1/13/2012 11:34

Sample ID: 12A0413-11

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	2.0	µg/Wipe	10		SW-846 8082A	1/13/12	1/17/12 10:01	MJC
Aroclor-1221 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	1/13/12	1/17/12 10:01	MJC
Aroclor-1232 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	1/13/12	1/17/12 10:01	MJC
Aroclor-1242 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	1/13/12	1/17/12 10:01	MJC
Aroclor-1248 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	1/13/12	1/17/12 10:01	MJC
Aroclor-1254 [1]	14	2.0	µg/Wipe	10		SW-846 8082A	1/13/12	1/17/12 10:01	MJC
Aroclor-1260 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	1/13/12	1/17/12 10:01	MJC
Aroclor-1262 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	1/13/12	1/17/12 10:01	MJC
Aroclor-1268 [1]	ND	2.0	µg/Wipe	10		SW-846 8082A	1/13/12	1/17/12 10:01	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	106	30-150		1/17/12 10:01
Decachlorobiphenyl [2]	109	30-150		1/17/12 10:01
Tetrachloro-m-xylene [1]	103	30-150		1/17/12 10:01
Tetrachloro-m-xylene [2]	110	30-150		1/17/12 10:01

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

Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWR-148 | Sampled: 1/13/2012 11:40

Sample ID: 12A0413-12

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	1/13/12	1/16/12 18:48	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:48	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:48	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:48	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:48	MJC
Aroclor-1254 [1]	0.66	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:48	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:48	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:48	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 18:48	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	88.2	30-150		1/16/12 18:48
Decachlorobiphenyl [2]	89.8	30-150		1/16/12 18:48
Tetrachloro-m-xylene [1]	97.2	30-150		1/16/12 18:48
Tetrachloro-m-xylene [2]	96.6	30-150		1/16/12 18:48

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWB-149 | Sampled: 1/13/2012 11:45

Sample ID: 12A0413-13

Sample Matrix: Wipe

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	1/13/12	1/17/12 10:16	MJC
Aroclor-1221 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	1/13/12	1/17/12 10:16	MJC
Aroclor-1232 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	1/13/12	1/17/12 10:16	MJC
Aroclor-1242 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	1/13/12	1/17/12 10:16	MJC
Aroclor-1248 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	1/13/12	1/17/12 10:16	MJC
Aroclor-1254 [1]	6.0	1.0	µg/Wipe	5		SW-846 8082A	1/13/12	1/17/12 10:16	MJC
Aroclor-1260 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	1/13/12	1/17/12 10:16	MJC
Aroclor-1262 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	1/13/12	1/17/12 10:16	MJC
Aroclor-1268 [1]	ND	1.0	µg/Wipe	5		SW-846 8082A	1/13/12	1/17/12 10:16	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.4	30-150		1/17/12 10:16
Decachlorobiphenyl [2]	97.1	30-150		1/17/12 10:16
Tetrachloro-m-xylene [1]	99.1	30-150		1/17/12 10:16
Tetrachloro-m-xylene [2]	104	30-150		1/17/12 10:16

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Project Location: Yale - Kline Geology Lab | Sample Description: | Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWR-150 | Sampled: 1/13/2012 11:55

Sample ID: 12A0413-14

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	1/13/12	1/16/12 19:18	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:18	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:18	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:18	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:18	MJC
Aroclor-1254 [1]	0.55	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:18	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:18	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:18	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:18	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	89.6	30-150		1/16/12 19:18
Decachlorobiphenyl [2]	91.6	30-150		1/16/12 19:18
Tetrachloro-m-xylene [1]	99.0	30-150		1/16/12 19:18
Tetrachloro-m-xylene [2]	98.0	30-150		1/16/12 19:18

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

Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWB-151
Sampled: 1/13/2012 12:00

Sample ID: 12A0413-15

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	1/13/12	1/16/12 19:33	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:33	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:33	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:33	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:33	MJC
Aroclor-1254 [1]	0.92	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:33	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:33	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:33	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:33	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	89.3	30-150		1/16/12 19:33
Decachlorobiphenyl [2]	90.9	30-150		1/16/12 19:33
Tetrachloro-m-xylene [1]	100	30-150		1/16/12 19:33
Tetrachloro-m-xylene [2]	98.9	30-150		1/16/12 19:33

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

Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWC-152
Sampled: 1/13/2012 12:20

Sample ID: 12A0413-16

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	1/13/12	1/16/12 19:48	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:48	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:48	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:48	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:48	MJC
Aroclor-1254 [1]	2.2	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:48	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:48	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:48	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 19:48	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	83.6	30-150		1/16/12 19:48
Decachlorobiphenyl [2]	85.7	30-150		1/16/12 19:48
Tetrachloro-m-xylene [1]	98.7	30-150		1/16/12 19:48
Tetrachloro-m-xylene [2]	98.2	30-150		1/16/12 19:48

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

Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWCD-153
Sampled: 1/13/2012 12:20

Sample ID: 12A0413-17

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	0.80	µg/Wipe	4		SW-846 8082A	1/13/12	1/17/12 10:31	MJC
Aroclor-1221 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	1/13/12	1/17/12 10:31	MJC
Aroclor-1232 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	1/13/12	1/17/12 10:31	MJC
Aroclor-1242 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	1/13/12	1/17/12 10:31	MJC
Aroclor-1248 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	1/13/12	1/17/12 10:31	MJC
Aroclor-1254 [1]	5.1	0.80	µg/Wipe	4		SW-846 8082A	1/13/12	1/17/12 10:31	MJC
Aroclor-1260 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	1/13/12	1/17/12 10:31	MJC
Aroclor-1262 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	1/13/12	1/17/12 10:31	MJC
Aroclor-1268 [1]	ND	0.80	µg/Wipe	4		SW-846 8082A	1/13/12	1/17/12 10:31	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.7	30-150		1/17/12 10:31
Decachlorobiphenyl [2]	97.7	30-150		1/17/12 10:31
Tetrachloro-m-xylene [1]	96.5	30-150		1/17/12 10:31
Tetrachloro-m-xylene [2]	100	30-150		1/17/12 10:31

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Project Location: Yale - Kline Geology Lab
Sample Description:
Work Order: 12A0413

Date Received: 1/13/2012

Field Sample #: KGL-VWBD-154
Sampled: 1/13/2012 12:50

Sample ID: 12A0413-18

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	1/13/12	1/16/12 20:18	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 20:18	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 20:18	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 20:18	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 20:18	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 20:18	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 20:18	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 20:18	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/13/12	1/16/12 20:18	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.3	30-150		1/16/12 20:18
Decachlorobiphenyl [2]	93.2	30-150		1/16/12 20:18
Tetrachloro-m-xylene [1]	99.7	30-150		1/16/12 20:18
Tetrachloro-m-xylene [2]	98.1	30-150		1/16/12 20:18

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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
12A0413-01 [KGL-VWR-137]	B044380	1.00	10.0	01/13/12
12A0413-02 [KGL-VWB-138]	B044380	1.00	10.0	01/13/12
12A0413-07 [KGL-VWB-143]	B044380	1.00	10.0	01/13/12
12A0413-08 [KGL-VWR-144]	B044380	1.00	10.0	01/13/12
12A0413-09 [KGL-VWB-145]	B044380	1.00	10.0	01/13/12
12A0413-10 [KGL-VWR-146]	B044380	1.00	10.0	01/13/12
12A0413-11 [KGL-VWB-147]	B044380	1.00	10.0	01/13/12
12A0413-12 [KGL-VWR-148]	B044380	1.00	10.0	01/13/12
12A0413-13 [KGL-VWB-149]	B044380	1.00	10.0	01/13/12
12A0413-14 [KGL-VWR-150]	B044380	1.00	10.0	01/13/12
12A0413-15 [KGL-VWB-151]	B044380	1.00	10.0	01/13/12
12A0413-16 [KGL-VWC-152]	B044380	1.00	10.0	01/13/12
12A0413-17 [KGL-VWCD-153]	B044380	1.00	10.0	01/13/12
12A0413-18 [KGL-VWBD-154]	B044380	1.00	10.0	01/13/12

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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 B044380 - SW-846 3540C										
Blank (B044380-BLK1)				Prepared: 01/13/12 Analyzed: 01/16/12						
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	*1.61*		µg/Wipe	2.00		80.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.60*		µg/Wipe	2.00		80.2	30-150			
Surrogate: Tetrachloro-m-xylene	*1.98*		µg/Wipe	2.00		99.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.92*		µg/Wipe	2.00		95.9	30-150			
LCS (B044380-BS1)				Prepared: 01/13/12 Analyzed: 01/16/12						
Aroclor-1016	0.60	0.20	µg/Wipe	0.500		119	40-140			
Aroclor-1016 [2C]	0.60	0.20	µg/Wipe	0.500		120	40-140			
Aroclor-1260	0.49	0.20	µg/Wipe	0.500		97.9	40-140			
Aroclor-1260 [2C]	0.50	0.20	µg/Wipe	0.500		99.1	40-140			
Surrogate: Decachlorobiphenyl	*1.74*		µg/Wipe	2.00		87.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.75*		µg/Wipe	2.00		87.7	30-150			
Surrogate: Tetrachloro-m-xylene	*2.07*		µg/Wipe	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.03*		µg/Wipe	2.00		102	30-150			
LCS Dup (B044380-BSD1)				Prepared: 01/13/12 Analyzed: 01/16/12						
Aroclor-1016	0.57	0.20	µg/Wipe	0.500		115	40-140	3.64	30	
Aroclor-1016 [2C]	0.57	0.20	µg/Wipe	0.500		115	40-140	4.56	30	
Aroclor-1260	0.50	0.20	µg/Wipe	0.500		100	40-140	2.10	30	
Aroclor-1260 [2C]	0.51	0.20	µg/Wipe	0.500		102	40-140	3.26	30	
Surrogate: Decachlorobiphenyl	*1.78*		µg/Wipe	2.00		89.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.80*		µg/Wipe	2.00		90.2	30-150			
Surrogate: Tetrachloro-m-xylene	*2.01*		µg/Wipe	2.00		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.99*		µg/Wipe	2.00		99.7	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	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2012
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

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Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

12A0413

Page 1 of 2

Company Name: Woodard + Curran
Address: 35 New England Business Center Andover, MA
Attention: J Hamel, G. Franklin, K. Rinard
Project Location: Yale Univ - Kline Geo
Sampled By: K. Rinard (413) 531-4455
Project Proposal Provided? (for billing purposes) ☒ yes 20110921 proposal date

Telephone:
Project # 224415
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	I
** Preservation	H
***Container Code	G

ANALYSIS REQUESTED: EPA 8082 by 3540C

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	EPA 8082 by 3540C
-01	KGL-VWR-137	1/13/12	0934			WI	U	✓
-02	KGL-VWB-138	↓	0940			WI	U	✓
-03	KGL-VWR-139	↓	0945			WI	U	✓
-04	KGL-VWB-140	↓	0950			WI	U	✓
-05	KGL-VWR-141	1/13/12	1020			WI	U	✓
	~~KGL-VWRD~~		1020			WI	U	Sample Omitted per G. Franklin
-06	KGL-VWR-142	↓	1100			WI	U	✓
-07	KGL-VWB-143	↓	1105			WI	U	✓
-08	KGL-VWR-144	↓	1120			WI	U	✓
-09	KGL-VWB-145	1/13/12	1132			WI	U	✓

Comments: EPA 8082 PCB's by 3540C Soxhlet RL @ ≤ 1ug/wipe
* please include krinard@woodardcurran.com in email. 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

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~~ HEXANE
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) 2.1°C [signature]	Date/Time: 1/13/12 1745
Received by: (signature) [signature] 2.1°C	Date/Time: 1/13/12 1745
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5 BD STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: ≤ 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

†† 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

CHAIN OF CUSTODY RECORD

12A0413

Page 2 of 2

Company Name: Woodard + Curran
Telephone:
Address: 35 New England Business Center Andover, MA
Project # 224415
Client PO#
Attention: J. Hamel, G Franklin, K. Rinard
Project Location: Yale Univ - Kline Geo
Sampled By: K. Rinard (413) 531-4455
Project Proposal Provided? (for billing purposes) ✓ yes 20110921 proposal date

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

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPA 8082 by 3540C
-10	KGL-VWR-146	1/13/12	1121			WI	U	✓
-11	KGL-VWB-147	↓	1134			WI	U	✓
-12	KGL-VWR-148	↓	1140			WI	U	✓
-13	KGL-VWB-149	↓	1145			WI	U	✓
-14	KGL-VWR-150	1/13/12	1155			WI	U	✓
-15	KGL-VWB-151	↓	1200			WI	U	✓
-16	KGL-VWL-152	↓	1220			WI	U	✓
-17	KGL-VWCD-153	↓	1220			WI	U	✓
-18	KGL-VWBD-154	1/13/12	1250			WI	U	✓
	~~1/13/12~~					WI	U	✓

# of Containers	1
** Preservation	HI
***Container Code	G

ANALYSIS REQUESTED

Dissolved Metals
○ Field Filtered
○ Lab to Filter

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

**Preservation
I = Iced
~~H = HCL~~ HEXANE
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: EPA 8082 PCB's by 3540C Soxhlet prep
R.L ≤ 1ug/wipe

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) K Rinard — Date/Time: 1/13/12 1745
Received by: (signature) [signature] 2.1°C — Date/Time: 1/13/12 1745
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5 BD STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: ≤ 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

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

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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

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Sample Receipt Checklist

CLIENT NAME: Woodard + Curran RECEIVED BY: SD DATE: 1/13/12

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 2.1

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

Who was notified _____ Date _____ Time _____

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

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	18
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

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

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

Doc# 277

Rev. 1 Ma

12A0413-01 KGL-VWR-137

Analyte		Results	%RPD
Aroclor-1254 [2C]	3.2	3.0618	4.41
Surrogates			
Decachlorobiphenyl	1.91	1.96772	2.98
Tetrachloro-m-xylene	1.98	2.0098	1.49

12A0413-02 KGL-VWB-138

Analyte		Results	%RPD
Aroclor-1254	0.56	0.50375	10.6
Surrogates			
Decachlorobiphenyl	1.84	1.83332	0.364
Tetrachloro-m-xylene	2.00	1.96623	1.7

12A0413-07 KGL-VWB-143

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.83	1.87381	2.37
Tetrachloro-m-xylene	2.06	2.02857	1.54

12A0413-08 KGL-VWR-144

Analyte		Results	%RPD
Surrogates			
Decachlorobiphenyl	1.83	1.85942	1.59
Tetrachloro-m-xylene	1.95	1.92651	1.21

12A0413-09 KGL-VWB-145

Analyte		Results	%RPD
Surrogates			
Tetrachloro-m-xylene	2.00	1.96835	1.6
Decachlorobiphenyl	1.89	1.90329	0.701

12A0413-10 KGL-VWR-146

Analyte		Results	%RPD
Aroclor-1254	1.1	0.95835	13.8
Surrogates			
Tetrachloro-m-xylene	1.90	1.88525	0.779
Decachlorobiphenyl	1.83	1.85885	1.56

12A0413-11 KGL-VWB-147

Analyte		Results	%RPD
Aroclor-1254	14	13.145	6.3
Surrogates			
Decachlorobiphenyl	2.11	2.1759	3.08
Tetrachloro-m-xylene	2.07	2.2051	6.32

12A0413-12 KGL-VWR-148

Analyte		Results	%RPD
Aroclor-1254	0.66	0.60813	8.18
Surrogates			
Decachlorobiphenyl	1.76	1.79589	2.02
Tetrachloro-m-xylene	1.94	1.93107	0.461

12A0413-13 KGL-VWB-149

Analyte		Results	%RPD
Aroclor-1254	6.0	5.5891	7.09
Surrogates			
Decachlorobiphenyl	1.89	1.9413	2.68
Tetrachloro-m-xylene	1.98	2.07875	4.87

12A0413-14 KGL-VWR-150

Analyte		Results	%RPD

Aroclor-1254	0.55	0.52285	5.06
Surrogates			
Decachlorobiphenyl	1.79	1.83183	2.31
Tetrachloro-m-xylene	1.98	1.96058	0.986

12A0413-15 KGL-VWB-151

Analyte	Results		%RPD
Aroclor-1254	0.92	0.86562	6.09
Surrogates			
Decachlorobiphenyl	1.79	1.81741	1.52
Tetrachloro-m-xylene	2.00	1.97831	1.09

12A0413-16 KGL-VWC-152

Analyte	Results		%RPD
Aroclor-1254	2.2	1.93668	12.7
Surrogates			
Decachlorobiphenyl	1.67	1.71467	2.64
Tetrachloro-m-xylene	1.97	1.96488	0.26

12A0413-17 KGL-VWCD-153

Analyte	Results		%RPD
Aroclor-1254	5.1	4.64756	9.28
Surrogates			
Tetrachloro-m-xylene	1.93	2.00124	3.62
Decachlorobiphenyl	1.91	1.95328	2.24

12A0413-18 KGL-VWBD-154

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.83	1.86388	1.83
Tetrachloro-m-xylene	1.99	1.96237	1.4

B044380-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.61	1.6036	0.398
Tetrachloro-m-xylene	1.98	1.91781	3.19

B044380-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.60	0.59942	0.0967
Aroclor-1260	0.49	0.49558	1.13
Surrogates			
Decachlorobiphenyl	1.74	1.75386	0.793
Tetrachloro-m-xylene	2.07	2.03437	1.74

B044380-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.57	0.57272	0.476
Aroclor-1260	0.50	0.51198	2.37
Surrogates			
Tetrachloro-m-xylene	2.01	1.99399	0.8
Decachlorobiphenyl	1.78	1.80409	1.34

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February 2, 2012

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

Project Location: Yale Univ - Kline Geo
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 12A0814

Enclosed are results of analyses for samples received by the laboratory on January 26, 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: 2/2/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12A0814

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

PROJECT LOCATION: Yale Univ - Kline Geo

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWR-159	12A0814-01	Wipe		SW-846 8082A	
KGL-VWR-160	12A0814-02	Wipe		SW-846 8082A	
KGL-VWB-161	12A0814-03	Wipe		SW-846 8082A	
KGL-VWB-162	12A0814-04	Wipe		SW-846 8082A	
KGL-VWC-163	12A0814-05	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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

Project Location: Yale Univ - Kline Geo
Sample Description:
Work Order: 12A0814

Date Received: 1/26/2012

Field Sample #: KGL-VWR-159
Sampled: 1/26/2012 09:40

Sample ID: 12A0814-01

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	1/27/12	1/30/12 23:16	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:16	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:16	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:16	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:16	MJC
Aroclor-1254 [1]	1.1	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:16	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:16	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:16	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:16	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	92.2	30-150		1/30/12 23:16
Decachlorobiphenyl [2]	105	30-150		1/30/12 23:16
Tetrachloro-m-xylene [1]	104	30-150		1/30/12 23:16
Tetrachloro-m-xylene [2]	106	30-150		1/30/12 23:16

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Project Location: Yale Univ - Kline Geo | Sample Description: | Work Order: 12A0814

Date Received: 1/26/2012

Field Sample #: KGL-VWR-160 | Sampled: 1/26/2012 09:43

Sample ID: 12A0814-02

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	1/27/12	1/30/12 23:31	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:31	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:31	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:31	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:31	MJC
Aroclor-1254 [1]	0.65	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:31	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:31	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:31	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:31	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	89.3	30-150		1/30/12 23:31
Decachlorobiphenyl [2]	101	30-150		1/30/12 23:31
Tetrachloro-m-xylene [1]	107	30-150		1/30/12 23:31
Tetrachloro-m-xylene [2]	109	30-150		1/30/12 23:31

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Project Location: Yale Univ - Kline Geo | Sample Description: | Work Order: 12A0814

Date Received: 1/26/2012

Field Sample #: KGL-VWB-161 | Sampled: 1/26/2012 09:45

Sample ID: 12A0814-03

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	1/27/12	1/30/12 23:46	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:46	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:46	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:46	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:46	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:46	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:46	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:46	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/30/12 23:46	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	91.3	30-150		1/30/12 23:46
Decachlorobiphenyl [2]	102	30-150		1/30/12 23:46
Tetrachloro-m-xylene [1]	105	30-150		1/30/12 23:46
Tetrachloro-m-xylene [2]	108	30-150		1/30/12 23:46

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Project Location: Yale Univ - Kline Geo
Sample Description:
Work Order: 12A0814

Date Received: 1/26/2012

Field Sample #: KGL-VWB-162
Sampled: 1/26/2012 09:47

Sample ID: 12A0814-04

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	1/27/12	1/31/12 0:00	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:00	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:00	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:00	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:00	MJC
Aroclor-1254 [2]	0.51	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:00	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:00	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:00	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:00	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	96.6	30-150		1/31/12 0:00
Decachlorobiphenyl [2]	108	30-150		1/31/12 0:00
Tetrachloro-m-xylene [1]	104	30-150		1/31/12 0:00
Tetrachloro-m-xylene [2]	107	30-150		1/31/12 0:00

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Project Location: Yale Univ - Kline Geo | Sample Description: | Work Order: 12A0814

Date Received: 1/26/2012

Field Sample #: KGL-VWC-163 | Sampled: 1/26/2012 09:52

Sample ID: 12A0814-05

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	1/27/12	1/31/12 0:15	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:15	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:15	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:15	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:15	MJC
Aroclor-1254 [1]	1.7	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:15	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:15	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:15	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/27/12	1/31/12 0:15	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	86.7	30-150		1/31/12 0:15
Decachlorobiphenyl [2]	96.9	30-150		1/31/12 0:15
Tetrachloro-m-xylene [1]	99.7	30-150		1/31/12 0:15
Tetrachloro-m-xylene [2]	103	30-150		1/31/12 0:15

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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
12A0814-01 [KGL-VWR-159]	B045156	1.00	10.0	01/27/12
12A0814-02 [KGL-VWR-160]	B045156	1.00	10.0	01/27/12
12A0814-03 [KGL-VWB-161]	B045156	1.00	10.0	01/27/12
12A0814-04 [KGL-VWB-162]	B045156	1.00	10.0	01/27/12
12A0814-05 [KGL-VWC-163]	B045156	1.00	10.0	01/27/12

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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 B045156 - SW-846 3540C										
Blank (B045156-BLK1)				Prepared: 01/27/12 Analyzed: 01/30/12						
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	*1.98*		µg/Wipe	2.00		99.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.18*		µg/Wipe	2.00		109	30-150			
Surrogate: Tetrachloro-m-xylene	*2.15*		µg/Wipe	2.00		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.20*		µg/Wipe	2.00		110	30-150			
LCS (B045156-BS1)				Prepared: 01/27/12 Analyzed: 01/30/12						
Aroclor-1016	0.66	0.20	µg/Wipe	0.500		132	40-140			
Aroclor-1016 [2C]	0.62	0.20	µg/Wipe	0.500		123	40-140			
Aroclor-1260	0.52	0.20	µg/Wipe	0.500		103	40-140			
Aroclor-1260 [2C]	0.56	0.20	µg/Wipe	0.500		112	40-140			
Surrogate: Decachlorobiphenyl	*1.82*		µg/Wipe	2.00		91.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.99*		µg/Wipe	2.00		99.7	30-150			
Surrogate: Tetrachloro-m-xylene	*2.00*		µg/Wipe	2.00		99.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.05*		µg/Wipe	2.00		102	30-150			
LCS Dup (B045156-BSD1)				Prepared: 01/27/12 Analyzed: 01/30/12						
Aroclor-1016	0.66	0.20	µg/Wipe	0.500		132	40-140	0.345	30	
Aroclor-1016 [2C]	0.67	0.20	µg/Wipe	0.500		134	40-140	8.45	30	
Aroclor-1260	0.55	0.20	µg/Wipe	0.500		110	40-140	6.71	30	
Aroclor-1260 [2C]	0.62	0.20	µg/Wipe	0.500		124	40-140	9.77	30	
Surrogate: Decachlorobiphenyl	*1.88*		µg/Wipe	2.00		94.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.07*		µg/Wipe	2.00		104	30-150			
Surrogate: Tetrachloro-m-xylene	*2.13*		µg/Wipe	2.00		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.18*		µg/Wipe	2.00		109	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	02/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2012
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013
VA	Commonwealth of Virginia	1381	12/14/2012

5

CHAIN OF CUSTODY RECORD

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12A0814

Company Name: Woodard + Curran
Address: 35 New England Bus Park
Andover, MA
Attention: G. Franklin, J Hamel, K. Rinard
Project Location: Yale Univ - Kline Geo
Sampled By: Kim Rinard (413) 531-4455

Telephone:
Project # 224415
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 20110921 proposal date

ANALYSIS REQUESTED: EPA 8082 / 3540C

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	# of Containers	** Preservation	***Container Code
01	KGL-VWR - 159	1/26/12	0940			WI	U	1	I	G
02	KGL-VWR - 160	↓	0943			WI	U	1	I	G
03	KGL-VWB - 161		0945			WI	U	1	I	G
04	KGL-VWB - 162	↓	0947			WI	U	1	I	G
05	KGL-VWC - 163	1/26/12	0952			WI	U	1	I	G

1/26/12 Kim

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 HEXANE

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: Wipes by US EPA 8082 PCB's via 3540C Soxhlet
RL @ <1 ug/wipe. ** Please contact G. Franklin to confirm 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:
KRR K. Rinard	1/26/12 1145
Received by: (signature)	Date/Time: 1/26/12 1145
Relinquished by: (signature)	Date/Time: 1/26/12 1256
Received by: (signature) Alan Pienkowski 4.0°C	Date/Time: 1/26/12 12:56

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 ACCREDITED LABORATORY
NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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East Longmeadow, MA. 01028
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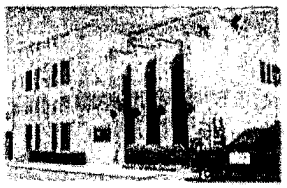

Sample Receipt Checklist

CLIENT NAME: Woodard + Curran **RECEIVED BY:** AP **DATE:** 1/26/12

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 4.0°C

5) Are there Dissolved samples for the lab to filter? Yes No

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: Login

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature:

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	5 Hex Wipes
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol _____

Bisulfate _____ # DI Water _____

Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No N/A _____

Do all samples have the proper Base pH: Yes No N/A _____

Doc# 277

Rev. 1 May

12A0814-01 KGL-VWR-159

Analyte	Results		%RPD
Aroclor-1254	1.1	1.09251	0.683
Surrogates			
Decachlorobiphenyl	1.84	2.10042	13.2
Tetrachloro-m-xylene	2.08	2.11458	1.65

12A0814-02 KGL-VWR-160

Analyte	Results		%RPD
Aroclor-1254	0.65	0.62124	4.52
Surrogates			
Decachlorobiphenyl	1.79	2.02878	12.5
Tetrachloro-m-xylene	2.14	2.18916	2.27

12A0814-03 KGL-VWB-161

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.83	2.03021	10.4
Tetrachloro-m-xylene	2.10	2.16554	3.07

12A0814-04 KGL-VWB-162

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.51	0.50264	1.45
Surrogates			
Tetrachloro-m-xylene	2.08	2.13974	2.83
Decachlorobiphenyl	1.93	2.15035	10.8

12A0814-05 KGL-VWC-163

Analyte	Results		%RPD
Aroclor-1254	1.7	1.47307	14.3
Surrogates			
Decachlorobiphenyl	1.73	1.93765	11.3
Tetrachloro-m-xylene	1.99	2.05024	2.98

B045156-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.98	2.17873	9.56
Tetrachloro-m-xylene	2.15	2.19699	2.16

B045156-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.66	0.61688	6.75
Aroclor-1260	0.52	0.56101	7.59
Surrogates			
Decachlorobiphenyl	1.82	1.99351	9.1
Tetrachloro-m-xylene	2.00	2.04808	2.38

B045156-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.66	0.67133	1.7
Aroclor-1260	0.55	0.61866	11.8
Surrogates			
Tetrachloro-m-xylene	2.13	2.17554	2.12
Decachlorobiphenyl	1.88	2.07416	9.82

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February 21, 2012

George Franklin
Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810

Project Location: Yale Kline Geo lab
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 12A0526

Enclosed are results of analyses for samples received by the laboratory on January 18, 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: 2/21/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12A0526

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Yale Kline Geo lab

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWR-155	12A0526-01	Wipe		SW-846 8082A	
KGL-VWB-156	12A0526-02	Wipe		SW-846 8082A	
KGL-VWR-157	12A0526-03	Wipe		SW-846 8082A	
KGL-VWR-158	12A0526-04	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.

REVISED REPORT - 02/21/2012 - Sample 12B0526-02 ID revised per clients request.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Meghan E. Kelley
Project Chemist

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Yale Kline Geo lab | Sample Description: | Work Order: 12A0526

Date Received: 1/18/2012

Field Sample #: KGL-VWR-155 | Sampled: 1/18/2012 09:00

Sample ID: 12A0526-01

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	1/18/12	1/19/12 21:29	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:29	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:29	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:29	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:29	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:29	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:29	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:29	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:29	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	92.6	30-150		1/19/12 21:29
Decachlorobiphenyl [2]	84.9	30-150		1/19/12 21:29
Tetrachloro-m-xylene [1]	102	30-150		1/19/12 21:29
Tetrachloro-m-xylene [2]	97.6	30-150		1/19/12 21:29

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Project Location: Yale Kline Geo lab | Sample Description: | Work Order: 12A0526

Date Received: 1/18/2012

Field Sample #: KGL-VWB-156 | Sampled: 1/18/2012 09:08

Sample ID: 12A0526-02

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	1/18/12	1/19/12 21:41	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:41	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:41	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:41	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:41	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:41	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:41	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:41	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:41	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	95.5	30-150		1/19/12 21:41
Decachlorobiphenyl [2]	86.3	30-150		1/19/12 21:41
Tetrachloro-m-xylene [1]	100	30-150		1/19/12 21:41
Tetrachloro-m-xylene [2]	95.2	30-150		1/19/12 21:41

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Project Location: Yale Kline Geo lab | Sample Description: | Work Order: 12A0526

Date Received: 1/18/2012

Field Sample #: KGL-VWR-157 | Sampled: 1/18/2012 09:15

Sample ID: 12A0526-03

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	1/18/12	1/19/12 21:54	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:54	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:54	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:54	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:54	MJC
Aroclor-1254 [2]	0.97	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:54	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:54	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:54	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 21:54	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	94.5	30-150		1/19/12 21:54
Decachlorobiphenyl [2]	85.5	30-150		1/19/12 21:54
Tetrachloro-m-xylene [1]	100	30-150		1/19/12 21:54
Tetrachloro-m-xylene [2]	95.8	30-150		1/19/12 21:54

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Project Location: Yale Kline Geo lab | Sample Description: | Work Order: 12A0526

Date Received: 1/18/2012

Field Sample #: KGL-VWR-158 | Sampled: 1/13/2012 10:20

Sample ID: 12A0526-04

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	1/18/12	1/19/12 22:07	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 22:07	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 22:07	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 22:07	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 22:07	MJC
Aroclor-1254 [2]	0.36	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 22:07	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 22:07	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 22:07	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	1/18/12	1/19/12 22:07	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	101	30-150		1/19/12 22:07
Decachlorobiphenyl [2]	90.5	30-150		1/19/12 22:07
Tetrachloro-m-xylene [1]	108	30-150		1/19/12 22:07
Tetrachloro-m-xylene [2]	102	30-150		1/19/12 22:07

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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
12A0526-01 [KGL-VWR-155]	B044596	1.00	10.0	01/18/12
12A0526-02 [KGL-VWB-156]	B044596	1.00	10.0	01/18/12
12A0526-03 [KGL-VWR-157]	B044596	1.00	10.0	01/18/12
12A0526-04 [KGL-VWR-158]	B044596	1.00	10.0	01/18/12

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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 B044596 - SW-846 3540C										
Blank (B044596-BLK1)				Prepared: 01/18/12 Analyzed: 01/19/12						
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	*1.91*		µg/Wipe	2.00		95.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.71*		µg/Wipe	2.00		85.5	30-150			
Surrogate: Tetrachloro-m-xylene	*1.96*		µg/Wipe	2.00		97.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.87*		µg/Wipe	2.00		93.5	30-150			
LCS (B044596-BS1)				Prepared: 01/18/12 Analyzed: 01/19/12						
Aroclor-1016	0.52	0.20	µg/Wipe	0.500		104	40-140			
Aroclor-1016 [2C]	0.53	0.20	µg/Wipe	0.500		105	40-140			
Aroclor-1260	0.48	0.20	µg/Wipe	0.500		97.0	40-140			
Aroclor-1260 [2C]	0.48	0.20	µg/Wipe	0.500		95.6	40-140			
Surrogate: Decachlorobiphenyl	*1.91*		µg/Wipe	2.00		95.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.71*		µg/Wipe	2.00		85.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.82*		µg/Wipe	2.00		91.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.75*		µg/Wipe	2.00		87.3	30-150			
LCS Dup (B044596-BSD1)				Prepared: 01/18/12 Analyzed: 01/19/12						
Aroclor-1016	0.54	0.20	µg/Wipe	0.500		109	40-140	4.95	30	
Aroclor-1016 [2C]	0.57	0.20	µg/Wipe	0.500		114	40-140	7.75	30	
Aroclor-1260	0.48	0.20	µg/Wipe	0.500		95.3	40-140	1.78	30	
Aroclor-1260 [2C]	0.47	0.20	µg/Wipe	0.500		94.0	40-140	1.67	30	
Surrogate: Decachlorobiphenyl	*1.93*		µg/Wipe	2.00		96.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.73*		µg/Wipe	2.00		86.4	30-150			
Surrogate: Tetrachloro-m-xylene	*1.92*		µg/Wipe	2.00		96.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.84*		µg/Wipe	2.00		92.2	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	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2013
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	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013
VA	Commonwealth of Virginia	1381	12/14/2012

X

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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

12A0526

39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

Company Name: Woodard + Curran
Address: 35 New England Bus. Ctr
Andover, MA
Attention: G. Franklin, J. Hamel, K. Rinard
Project Location: Yale Kline Geo Lab
Sampled By: K. Rinard (413) 531-4455

Project Proposal Provided? (for billing purposes) ✓ yes 20110921 proposal date

Telephone:
Project # 224415
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	HEX
***Container Code	G

ANALYSIS REQUESTED: EPA 8082 by 3540C

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	EPA 8082 by 3540C
	KGL-VWR - 155	1/18/12	0900			WI	U	✓
	KGL-VWB - 156	↓	0908			WI	U	✓
	KGL-VWR - 157	1/18/12	0915			WI	U	✓
	KGL-VWR - 158	1/13/12	1020			WI	U	✓

1/18/12 KAR

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
HEX = HEXANE

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: * Expedited TAT - due to lab error from sample event 1/13/12 per M. Kelly - (Susan Burney)
EPA 8082 PCB's by 3540C Soxhlet RL @ ≤1 ug/kg

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Signature	Date/Time
Relinquished by: (signature) K. Rinard (K. Rinard)	1/18/12 1035
Received by: (signature) [signature]	1/18/12 1035
Relinquished by: (signature) [signature]	1/18/12 438
Received by: (signature) [signature]	1/18/12 1638

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
* RUSH †
☐ †24-Hr ☒ †48-Hr EOD 1/20/12
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: 1 ug/kg

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
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Sample Receipt Checklist

CLIENT NAME: Woodard + Curran RECEIVED BY: PR DATE: 1/18/12

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 2.8

5) Are there Dissolved samples for the lab to filter? Yes (No)

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? (Yes) No

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	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:

Do all samples have the proper Acid pH: Yes No N/A _____

Do all samples have the proper Base pH: Yes No N/A _____

Doc# 277

Rev. 1 May 2

12A0526-01 KGL-VWR-155

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	2.05	1.95163	4.92
Decachlorobiphenyl	1.85	1.69791	8.57

12A0526-02 KGL-VWR-156

Analyte	Results		%RPD
Surrogates			
Decachlorobiphenyl	1.91	1.72539	10.2
Tetrachloro-m-xylene	2.00	1.90443	4.9

12A0526-03 KGL-VWR-157

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.97	0.88622	9.03
Surrogates			
Decachlorobiphenyl	1.89	1.70995	10
Tetrachloro-m-xylene	2.01	1.91586	4.8

12A0526-04 KGL-VWR-158

Analyte	Results		%RPD
Aroclor-1254 [2C]	0.36	0.31922	12
Surrogates			
Tetrachloro-m-xylene	2.16	2.04866	5.29
Decachlorobiphenyl	2.02	1.81033	10.9

B044596-BLK1 Blank

Analyte	Results		%RPD
Surrogates			
Tetrachloro-m-xylene	1.96	1.87022	4.69
Decachlorobiphenyl	1.91	1.70959	11.1

B044596-BS1 LCS

Analyte	Results		%RPD
Aroclor-1016	0.52	0.52708	1.35
Aroclor-1260	0.48	0.47788	0.443
Surrogates			
Decachlorobiphenyl	1.91	1.71468	10.8
Tetrachloro-m-xylene	1.82	1.74554	4.18

B044596-BSD1 LCS Dup

Analyte	Results		%RPD
Aroclor-1016	0.54	0.56957	5.33
Aroclor-1260	0.48	0.46995	2.12
Surrogates			
Tetrachloro-m-xylene	1.92	1.84451	4.01
Decachlorobiphenyl	1.93	1.72803	11

YALE KLINE GEOLOGY LABORATORY
VERIFICATION WIPE SAMPLES - PROJECT SUMMARY

Con-Test Analytical Laboratory Job Numbers: 12A0413, 12A0526, and 12A0814

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 2.1, 2.8, and 4.0 degrees Celsius. 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) was performed on a sample from these analytical packages. No qualifications will be applied.

The PCB laboratory control samples (LCS)/laboratory control sample duplicate (LCSD) met acceptance criteria. No qualifications will be applied.

PCB field duplicate samples KGL-VWC-152 (12A0413-16)/KGL-VWCD-153 (12A0413-17) met relative percent difference (RPD) acceptance criteria (<50%) with the exception of Aroclor-1254 (79%). The detected Aroclor-1254 results in samples KGL-VWC-152 (12A0413-16) and KGL-VWCD-153 (12A0413-17) will be estimated (J) due to high field duplicate RPD.

The RPD between the column results for all detected PCBs met acceptance criteria. No qualifications will be applied.

Several samples were analyzed at a dilution due to the high concentration of PCB-1254. RL are elevated in these samples as a result of the dilutions performed.

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

Gloria J. Switalski:
President

Date: 2/23/2012

Project # 224415

con-test® ANALYTICAL LABORATORY
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March 16, 2012

George Franklin
Woodard & Curran - Andover, MA
35 New England Business Center
Andover, MA 01810

Project Location: Yale
Client Job Number:
Project Number: 224415
Laboratory Work Order Number: 12C0246

Enclosed are results of analyses for samples received by the laboratory on March 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: 3/16/2012

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 224415

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12C0246

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Yale

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
KGL-VWR-164	12C0246-01	Wipe		SW-846 8082A	
KGL-VWC-165	12C0246-02	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 individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

con-test® ANALYTICAL LABORATORY

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Project Location: Yale | Sample Description: | Work Order: 12C0246

Date Received: 3/9/2012

Field Sample #: KGL-VWR-164 | Sampled: 3/8/2012 12:18

Sample ID: 12C0246-01

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	3/12/12	3/13/12 18:20	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:20	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:20	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:20	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:20	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:20	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:20	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:20	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:20	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	99.7	30-150		3/13/12 18:20
Decachlorobiphenyl [2]	83.9	30-150		3/13/12 18:20
Tetrachloro-m-xylene [1]	102	30-150		3/13/12 18:20
Tetrachloro-m-xylene [2]	84.2	30-150		3/13/12 18:20

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Project Location: Yale | Sample Description: | Work Order: 12C0246

Date Received: 3/9/2012

Field Sample #: KGL-VWC-165 | Sampled: 3/8/2012 12:25

Sample ID: 12C0246-02

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	3/12/12	3/13/12 18:32	MJC
Aroclor-1221 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:32	MJC
Aroclor-1232 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:32	MJC
Aroclor-1242 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:32	MJC
Aroclor-1248 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:32	MJC
Aroclor-1254 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:32	MJC
Aroclor-1260 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:32	MJC
Aroclor-1262 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:32	MJC
Aroclor-1268 [1]	ND	0.20	µg/Wipe	1		SW-846 8082A	3/12/12	3/13/12 18:32	MJC

Surrogates	% Recovery	Recovery Limits	Flag	
Decachlorobiphenyl [1]	113	30-150		3/13/12 18:32
Decachlorobiphenyl [2]	96.0	30-150		3/13/12 18:32
Tetrachloro-m-xylene [1]	113	30-150		3/13/12 18:32
Tetrachloro-m-xylene [2]	93.9	30-150		3/13/12 18:32

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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
12C0246-01 [KGL-VWR-164]	B047741	1.00	10.0	03/12/12
12C0246-02 [KGL-VWC-165]	B047741	1.00	10.0	03/12/12

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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 B047741 - SW-846 3540C										
Blank (B047741-BLK1)				Prepared: 03/12/12 Analyzed: 03/13/12						
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	*2.43*		µg/Wipe	2.00		121	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.01*		µg/Wipe	2.00		101	30-150			
Surrogate: Tetrachloro-m-xylene	*2.43*		µg/Wipe	2.00		121	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.02*		µg/Wipe	2.00		101	30-150			
LCS (B047741-BS1)				Prepared: 03/12/12 Analyzed: 03/13/12						
Aroclor-1016	0.59	0.20	µg/Wipe	0.500		117	40-140			
Aroclor-1016 [2C]	0.52	0.20	µg/Wipe	0.500		103	40-140			
Aroclor-1260	0.48	0.20	µg/Wipe	0.500		96.1	40-140			
Aroclor-1260 [2C]	0.56	0.20	µg/Wipe	0.500		111	40-140			
Surrogate: Decachlorobiphenyl	*2.35*		µg/Wipe	2.00		118	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.96*		µg/Wipe	2.00		97.9	30-150			
Surrogate: Tetrachloro-m-xylene	*2.40*		µg/Wipe	2.00		120	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.99*		µg/Wipe	2.00		99.5	30-150			
LCS Dup (B047741-BSD1)				Prepared: 03/12/12 Analyzed: 03/13/12						
Aroclor-1016	0.59	0.20	µg/Wipe	0.500		117	40-140	0.155	30	
Aroclor-1016 [2C]	0.51	0.20	µg/Wipe	0.500		101	40-140	1.91	30	
Aroclor-1260	0.48	0.20	µg/Wipe	0.500		96.2	40-140	0.106	30	
Aroclor-1260 [2C]	0.55	0.20	µg/Wipe	0.500		109	40-140	1.99	30	
Surrogate: Decachlorobiphenyl	*2.37*		µg/Wipe	2.00		119	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.98*		µg/Wipe	2.00		98.9	30-150			
Surrogate: Tetrachloro-m-xylene	*2.34*		µg/Wipe	2.00		117	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.95*		µg/Wipe	2.00		97.4	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

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	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2013
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	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2013
ME	State of Maine	2011028	06/9/2013
VA	Commonwealth of Virginia	1381	12/14/2012

CHAIN OF CUSTODY RECORD

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Page 1 of 1

12C0246

Company Name: Woodard & Curran
Address: 35 NE Business Ctr Suite 180
Andover MA 01810
Attention: George Franklin
Project Location: Yale
Sampled By: George Franklin

Telephone: 978 557 8150
Project #: 224415
Client PO#:

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #:
Email: gfranklin@shamel
Format: ☑ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	# of Containers	** Preservation	***Container Code	PCBs (8082/3540C)
01	KGL-VWR- ~~159~~ 161	3/8/12	1218		X	O	L	1	O	A	X
02	KGL-VWC- ~~160~~ 165	3/8/12	1225		X	O	L	1	O	A	X

Comments: PCBs via USEPA 8082 w/ Soxhlet Extraction (3540C)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other Hexane

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other WIPE

Relinquished by: (signature)	Date/Time: 3/9/12 0930
Received by: (signature)	Date/Time: 3/9/12 0930
Relinquished by: (signature)	Date/Time: 3/9/12 1600
Received by: (signature) Paula B	Date/Time: 3/9/12 1600

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Analytical Certification Form Required
○ RCP Analysis Certification Form Required
○ MA State DW Form Required PWSID # _____

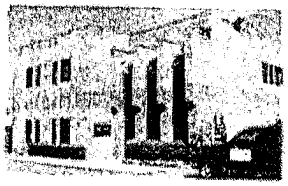
ACCREDITED IN ACCORDANCE WITH nelac
AIHA Accredited Laboratory
NELAC & AIHA Certified
WBE/DBE Certified

†† TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY



Sample Receipt Checklist

CLIENT NAME: Woodard + Curran **RECEIVED BY:** PB **DATE:** 3/9/12

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 2.3

5) Are there Dissolved samples for the lab to filter? Yes (No)

Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes (No)

Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature:

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		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:

Do all samples have the proper Acid pH: Yes No N/A _____

Do all samples have the proper Base pH: Yes No N/A _____

Doc# 277

Rev. 1 May 2011

YALE KLINE GEOLOGY BROWNSTONE VERIFICATION WIPE SAMPLES
PROJECT SUMMARY

Con-Test Analytical Laboratory Job Number: 12C0246

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 2.3 degrees Celsius. 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 this analytical package. No qualifications will be applied.

No PCB matrix spike/matrix spike duplicate (MS/MSD) was performed on a sample from this analytical package since these were wipe samples. No qualifications will be applied.

The PCB laboratory control samples (LCS)/laboratory control sample duplicate (LCSD) met acceptance criteria. No qualifications will be applied.

No PCB field duplicate samples were submitted with this analytical package. No qualifications will be applied.

Data Check, Inc.
P.O. Box 29
81 Meaderboro Road
New Durham, NH 03855

Gloria J. Switalski:
President

Date: 3/19/2012

Project # 224415

APPENDIX D: WASTE DISPOSAL DOCUMENTS

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved, OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CTR000003235
2. Page 1 of 1
3. Emergency Response Phone: 800-424-9300
4. Manifest Tracking Number: 009246571 JJK

5. Generator's Name and Mailing Address
Yale University Env. Affairs
PO BOX 208112, ATTN: JoAnn Farrell
New Haven, CT 06520 USA
Generator's Phone: 203-432-9364

Generator's Site Address (if different than mailing address)
210 Whitney Avenue
New Haven, CT 06511 USA

6. Transporter 1 Company Name: Freehold Cartage, Inc.
U.S. EPA ID Number: NJD054126164

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
CWM Chemical Services, L.L.C.
1550 Balmer Road
Model City, NY 14107 USA
Facility's Phone: 716-286-1550
U.S. EPA ID Number: NYD049836679

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, UN3432, POLYCHLORINATED BIPHENYLS, SOLID MIXTURE, 9, III	001	CM	3000	K	CR01	B007	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
Generator's site address is contiguous to the permanent EPA ID #
Approval # NY303053 (PCB Windows & Masonry) Out of Service Date: 9-26-11
ERG # 171 weight is estimated Unique ID# KGL92611 CT-HW-307 NJ-113
81648588
recd 3611 K

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: JoAnn Farrell
Signature: JoAnn Farrell
Month 10 Day 17 Year 11

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Robert Daldos
Signature: Robert Daldos
Month 10 Day 17 Year 11
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
11/3/11 est
qty ~~recd~~ actual recd 3611K
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132
2.
3.
4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jody Parfinski
Signature: Jody Parfinski
Month 11 Day 3 Year 11

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

11/17/11 LT

WASTE MANAGEMENT

CWM CHEMICAL SERVICES, LLC
1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 Fax

YALE UNIVERSITY
ATTN: JOANN FARRELL, ENVIRONMENTAL SVCS. SECTION
CTR000003236
P.O. BOX 208112
NEW HAVEN CT 06520-8112

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from YALE UNIVERSITY on 11/03/11 as described on Shipping Document number 009246571JJK 11/7/11 Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY303053
CWM Tracking ID: 8164858801
CWM Unit #: 1*0
Disposal Date: 11/03/11

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 350137
11/04/11

For questions please call
our Customer Service Dept.
at (800) 843-3604

11/17/11
LY

From everyday collection to environmental protection, Think Green.® Think Waste Management.
Printed on 100% post-consumer recycled paper.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CTR000003236
2. Page 1 of 1
3. Emergency Response Phone: 800-424-9300
4. Manifest Tracking Number: 009246584 JJK

5. Generator's Name and Mailing Address
Yale University Env. Affairs
PO BOX 208112, ATTN: JoAnn Farrell
New Haven, CT 06520 USA
Generator's Phone: ~~203-432-9384~~ 9384 (JK)

Generator's Site Address (if different than mailing address)
210 Whitney Avenue
New Haven, CT 06511 USA

6. Transporter 1 Company Name: Freehold Cartage, Inc.
U.S. EPA ID Number: NJD054126154

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
CWM Chemical Services, L.L.C.
1550 Balmer Road
Model City, NY 14107 USA
Facility's Phone: 716-286-1550
U.S. EPA ID Number: NYD049836679

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, UN3432, POLYCHLORINATED BIPHENYLS, SOLID MIXTURE, 9, III	001	CM	3000	K	CR01	B007	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
Generator's site address is contiguous to the permanent EPA ID#
Approval # NY303053 (PCB Windows & Masonry) Out of Service Date: 10-17-11
ERG# 171 Weight is estimated Unique ID# KGL101711 NJ-113
81648730
recd 3874K

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: JoAnn Farrell
Signature: JoAnn Farrell
Month 11 Day 3 Year 11

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S.
Port of entry/exit:
Transporter signature (for exports only):
Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Robert Daldos
Signature: Robert Daldos
Month 11 Day 3 Year 11
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Qty est actual recd 3874K
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jody Pawlinski
Signature: Jody Pawlinski
Month 11 Day 9 Year 11

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

CWM CHEMICAL SERVICES, LLC
1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 Fax

YALE UNIVERSITY
ATTN: JOANN FARRELL, ENVIRONMENTAL SVCS. SECTION
CTR000003236
P.O. BOX 208112
NEW HAVEN CT 06520-8112

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from YALE UNIVERSITY on 11/09/11 as described on Shipping Document number 009246584JJK 11-311 Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY303053
CWM Tracking ID: 8164873001
CWM Unit #: 1*0
Disposal Date: 11/09/11

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 350345
11/10/11

For questions please call
our Customer Service Dept.
at (800) 843-3604

11/17/11 LF

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Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CTR000003236
2. Page 1 of 1
3. Emergency Response Phone: 800-424-9300
4. Manifest Tracking Number: 009246570 JJK

5. Generator's Name and Mailing Address
Yale University Env. Affairs
PO BOX 208112, ATTN: JoAnn Farrell
New Haven, CT 06520 USA
Generator's Phone: 203-432-9564

Generator's Site Address (if different than mailing address)
210 Whitney Avenue
New Haven, CT 06511 USA

6. Transporter 1 Company Name: Freehold Cartage, Inc.
U.S. EPA ID Number: NJD054126164

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
CWM Chemical Services, L.L.C.
1550 Balmer Road
Model City, NY 14107 USA
Facility's Phone: 716-286-1550
U.S. EPA ID Number: NYD049836679

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, UN3432, POLYCHLORINATED BIPHENYLS, SOLID MIXTURE, 9, III	001	CM	3500	K	CR01	B007	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
Generator's site address is contiguous to the permanent EPA ID #
Approval # NY303053 (PCB Windows & Masonary) Out of Service Date: 11-3-11
ERG # 171 weight is estimated Unique ID# KGL11311 SR-970270
recd 4055K 81649239 Box 9811

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: JoAnn Farrell
Signature: JoAnn Farrell
Month 12 Day 1 Year 11

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Robert Daldos
Signature: Robert Daldos
Month 12 Day 1 Year 11
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
other actual recd 4055K
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jody Parfinuk
Signature: Jody Parfinuk
Month 12 Day 7 Year 11

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

12/13/11 LT

WASTE MANAGEMENT

CWM CHEMICAL SERVICES, LLC
1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 Fax

YALE UNIVERSITY
ATTN: JOANN FARRELL, ENVIRONMENTAL SVCS. SECTION
CTR000003236
P.O. BOX 208112
NEW HAVEN CT 06520-8112

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from YALE UNIVERSITY on 12/02/11 as described on Shipping Document number 009246570JJK Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY303053
CWM Tracking ID: 8164923901
CWM Unit #: 1*0
Disposal Date: 12/02/11

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 350928
12/05/11

For questions please call
our Customer Service Dept.
at (800) 843-3604

12/13/11 LT

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CTR000003236
2. Page 1 of 1
3. Emergency Response Phone: 800-424-9300
4. Manifest Tracking Number: 009246629 JJK

5. Generator's Name and Mailing Address
Yale University Env. Affairs
PO BOX 208112, Attn: JoAnn Farrell
New Haven, CT 06520-8112 USA
Generator's Phone: 203-432-9364

Generator's Site Address (if different than mailing address)
210 Whitney Ave.
New Haven, CT 06511 USA

6. Transporter 1 Company Name: Veolia ES Technical Solutions
U.S. EPA ID Number: NJD080631369

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
CWM Chemical Services, L.L.C.
1550 Balmer Road
Model City, NY 14107 USA
Facility's Phone: 716-286-1550
U.S. EPA ID Number: NYD049836679

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,UN3432, POLYCHLORINATED BIPHENYLS SOLID MIXTURE, 9, III	001	CF	272	K	CR01	B007	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
Generator's site address is contiguous to the permanent EPA ID #
Approval # NY303053 (PCB Windows & Masonry) Out of service date: 12/12/11 Unique ID# KGL121211
ERG# 171 Weight is estimated MDC 218622 8/64/9773

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: JoAnn Farrell
Signature: JoAnn Farrell
Month 12 Day 21 Year 11

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S.
Port of entry/exit:
Transporter signature (for exports only):
Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sarah Ritter
Signature: Sarah Ritter
Month 12 Day 21 Year 11
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jarrod Cramer
Signature: Jarrod Cramer
Month 12 Day 27 Year 11

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

CWM CHEMICAL SERVICES, LLC
1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 Fax

YALE UNIVERSITY
ATTN: JOANN FARRELL, ENVIRONMENTAL SVCS. SECTION
CTR000003236
P.O. BOX 208112
NEW HAVEN CT 06520-8112

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from YALE UNIVERSITY on 12/27/11 as described on Shipping Document number 009246629JJK Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: 218622
CWM Tracking ID: 8164977305
CWM Unit #: 1*0
Disposal Date: 02/03/12

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 352469
02/07/12

For questions please call
our Customer Service Dept.
at (800) 843-3604

APPENDIX E: MONITORING AND MAINTENANCE IMPLEMENTATION PLAN

MONITORING AND MAINTENANCE IMPLEMENTATION PLAN

Yale University

Kline Geology Laboratory

New Haven, Connecticut

224415

Yale University

May 2014

woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS

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1. INTRODUCTION

This Monitoring and Maintenance Implementation Plan (MMIP) has been prepared by Woodard & Curran on behalf of Yale University pursuant to Condition 15 of the U.S. Environmental Protection Agency's (EPA) September 19, 2011 PCB Decontamination and Disposal Approval under 40 CFR 761.61(c) and 761.79(h) (the Approval) for the Kline Geology Laboratory. This plan presents the monitoring and maintenance activities that will be conducted to assess the long-term effectiveness of the encapsulants applied, as an interim measure, to residual concentrations of polychlorinated biphenyls (PCBs) detected on interior and exterior masonry surfaces at certain areas of the Kline Geology Laboratory located at 210 Whitney Avenue on Yale's New Haven, Connecticut campus (see Figure 1-1).

1.1 BACKGROUND

The Kline Geology Laboratory is a three story building primarily utilized as a graduate research laboratory and includes laboratories, lecture halls, student and faculty offices, and a library on the third floor. The Kline Geology Laboratory Building is located in the Science Hill area of the Yale campus and is surrounded by Whitney Avenue to the east, parking areas to the north, University laboratories to the west, and a museum to the south. Surrounding ground surfaces are generally flat or slightly sloped away from the building and are either covered with asphalt pavement, brownstone, concrete, or landscaped areas. A Site Locus Map is provided as Figure 1-1. As described in the Notification[1], ≥ 50 ppm PCBs and sealants were detected in caulking around building perimeter windows.

1.2 REMEDIATION SUMMARY

The PCB remediation activities performed at the Kline Geology Laboratory are described in detail in the PCB Remediation Completion Report, which is being submitted to EPA concurrently with this MMIP. In summary, the activities performed to remediate ≥ 50 ppm PCB containing caulking and adjacent building materials included the following activities:

- Removal and off-site disposal of ≥ 50 ppm PCB containing caulking and sealant with window frames and components (11 tons) as ≥ 50 ppm PCB waste (maximum PCB concentration was 270,000 ppm in caulking);
- Encapsulation of masonry building materials (brick, concrete, and brownstone) formerly in direct with the caulking through the use of liquid coatings and physical barriers;
- Encapsulation through the use of liquid encapsulants of exterior and interior building materials (brick, concrete and brownstone) located away from the former direct contact areas and which contained PCBs at concentrations above the high or low occupancy clean up levels, as applicable.

Based on the differing potential for direct contact exposures, both the high occupancy and low occupancy clean up criteria were applied as follows:

- High Occupancy Areas: The high occupancy cleanup criteria of ≤ 1 ppm total PCBs was applied to all first floor building materials adjacent to Type A windows on the north building elevation and to concrete materials surrounding the Type C basement level windows on the east elevation; and
- Low Occupancy Areas: The low occupancy cleanup criteria of ≤ 25 ppm total PCBs was applied to building materials adjacent to Type A windows on the first floor locations of the east (4 windows) and south (3

[1] Information was prepared by Woodard & Curran on behalf of Yale to satisfy the requirements under 40 CFR 761.61(c) and 761.79(h). Information was submitted on August 5, 2011 (PCB Remediation Plan), September 1, 2011 (Response to EPA Comments), and September 13, 2011 (email clarification on brownstone encapsulation). These submittals together form the "Notification."

windows) elevations and to all second and third floor building materials adjacent to Type A and Type B windows. There are no first floor windows on the west elevation.

1.3 ENCAPSULATION/BARRIER INSTALLATION AREAS AND BASELINE SAMPLING

The implementation of an in-place management strategy for residual concentrations of PCBs in masonry has removed the source material and is utilizing a physical barrier approach (encapsulation) to eliminate the direct contact exposure pathway and migration pathways of PCBs remaining in the building materials.

The following materials and areas were encapsulated with liquid coatings:

- Masonry materials in former direct contact with window caulking – Three coats of Sikagard 62 liquid epoxy coating were applied to building materials formerly in direct contact with interior and exterior joints and to a distance of 5/8-inches from the joints at 72 window openings; these areas were also subsequently covered by the metal frames of the new windows. Following application of the coating, 33 verification wipe samples were collected from CMU block, brick, or brownstone materials. Analytical results indicated that PCBs were either non-detect (< 0.20 µg/100cm^2) or < 1 µg/100cm^2 in the samples collected.
- Interior CMU walls not in direct contact with former window caulking – One coat of ECI Fibertech F-50 primer and two coats of ECI Fibertech F-51 topcoat were applied to CMU materials from the window openings to the first 90-degree angle (i.e., the interior side of the exterior wall) both laterally and vertically (i.e., above the window to the ceiling). Following application of the coatings, 19 verification wipe samples were collected. Analytical results indicated that PCBs were either non-detect or < 1 µg/100cm^2 in the samples collected.
- Exterior brick window recesses – Three or four coats of KlenzSeal liquid sealant were applied to brick surfaces within the window recess (a distance of approximately four inches) in high occupancy areas (first floor north elevation window recesses). Following application, verification wipe samples were collected. Analytical results indicated that PCBs were either non-detect or < 1 µg/100 cm^2 in all samples.
- Exterior brownstone window sills – Five coats of Duroshine Invisi-Guard impregnating sealer were applied to brownstone surfaces within the window recess (a distance of approximately 24 inches) in high occupancy areas (first floor north elevation) and three coats were applied to one window recess on the third floor south elevation (low occupancy area). Results from the verification wipe samples (one sample per window) indicated that PCBs were non-detect or < 1 µg/100cm^2 in all samples.
- Exterior Concrete sills – Five coats of Duroshine Invis-Guard impregnating sealer were applied to concrete sill materials within the window recess (a distance of approximately 11 inches) at the five basement windows. Analytical results from the verification sample indicated that PCBs were non-detect (< 0.20 µg/100cm^2).

1.4 POST ABATEMENT MONITORING

Following completion of remediation activities and improvements to the building ventilation system, indoor air samples and surface wipe samples were collected from 13 rooms to evaluate PCB concentrations in indoor air and to confirm that PCBs were not present on accessible horizontal surfaces in proximity to the windows. The sample locations were selected based on the following rationale:

- Indoor air and wipe samples were collected from approximately 20% of the rooms with windows;
- Specific locations were spatially distributed on each floor by the types of rooms (office, lab, and conference room) on the respective floor with considerations given to locations previously sampled and differing ventilation configurations (i.e., samples were divided between the two major ventilation system zones);
- On each floor at least one sample was collected from each “type” of space.

A summary of the sample locations for each floor is as follows:

- Basement Level – Although the plan included the collection of one sample from the basement level storage room, access to the space was not available at the time of sample collection (an additional sample was collected from a second floor office space);
- First Floor – Four samples were collected from first floor locations (there are a total of 13 rooms on the first floor). The samples were collected from two offices, one laboratory, and one conference room;
- Second Floor – Five samples were collected from second floor locations (there are a total of 29 rooms on the second floor). The samples were collected from three offices, one laboratory, and one conference room;
- Third Floor – Four samples were collected from third floor locations (there are a total of 25 rooms on the third floor). The samples were collected from two and two laboratories.

Analytical results from the baseline monitoring indicated the following:

- Indoor Air Sampling - PCB concentrations were below the project action level of 450 ng/m^3 (EPA's published guidance for indoor air levels for adults in schools [September 2009]) in the samples collected with reported concentrations ranging from 9.5 to 378.8 ng/m^3. Overall, PCB concentrations in indoor air decreased between 74 and 92% from pre- to post-abatement sampling.
- Surface Wipe Samples - Analytical results from the surface wipe samples indicated that PCBs were either non-detect (10 samples at < 0.20 µg/100 cm^2) or < 1 µg/100 cm^2 (3 samples with reported concentrations of 0.21, 0.24, and 0.25 µg/100 cm^2).

2. MONITORING AND MAINTENANCE IMPLEMENTATION PLAN

This MMIP has been developed to monitor the effectiveness of the remedy for the interior and exterior materials that contain PCBs at concentrations above the high or low occupancy use criteria in place beneath the encapsulating barriers.

A summary of the encapsulated surfaces are:

- Interior Masonry Surfaces and Drywall Materials – These surfaces include those currently behind the existing window frames, and concrete masonry unit block and/or drywall materials along the interior face of the perimeter building wall above the window and laterally away from the window to the first 90-degree angle.
- Exterior Masonry Surfaces (High Occupancy Areas) – These areas include:
    - Brick walls and brownstone sill materials adjacent to the seven first floor north elevation windows that are encapsulated by a liquid coating to the first 90-degree angle from the window (distance of approximately four inches for brick materials and 24 inches for brownstone materials).
    - Concrete masonry surfaces exterior to Room 7 on the basement of the east building elevation (five windows); that are encapsulated by a liquid coating to the first 90-degree angle from the window (distance of approximately 11 inches).
- Exterior Masonry Surfaces (Low Occupancy Areas) – This area includes brownstone sill materials exterior to Room 327B on the third floor of the south building elevation that are encapsulated by a liquid coating to the first 90-degree angle from the window (distance of approximately 24 inches).

The extent of these areas is depicted on the attached Figure 2-1.

2.1 INSPECTION AND SAMPLING

The following describes the inspections, sampling and reporting to be conducted for these areas:

- Visual inspections of the encapsulated surfaces will be conducted to look for signs of encapsulant deterioration and/or signs of weathering or disturbance of physical barriers (e.g., metal window frames, replacement caulking, drywall, etc.).
- Surface wipe samples of the encapsulated masonry surfaces beyond the extent of the replacement window frames/caulking will be collected to evaluate the concentration of PCBs present at the surface. Surface wipe samples will be collected as follows:
    - Interior Masonry and Drywall Surfaces – Wipe samples will be collected from interior surfaces within three rooms containing windows on the first, second, and third floors and one sample from Room 7 in the basement for a total of 10 wipe samples to be collected (or approximately 13% of the rooms based on 68 rooms with windows). The individual rooms on each floor will be randomly selected (except the basement). The exact location of the wipe within the room will be selected using a random number generator to establish the location along the wall (based on the width of the room) and height above the floor (based on the height from floor to ceiling) at which the wipe will be centered.
    - Exterior Brick Surfaces – One wipe sample will be collected from encapsulated exterior brick surfaces within the seven window recesses on the north elevation of the first floor. The specific window and side of the jamb will randomly selected for the sample. The location of the wipe along the selected jamb will then be selected using a random number generator from zero to nine with zero representing the bottom of the window.

- Exterior Brownstone Surfaces – One wipe sample will be collected from encapsulated exterior brownstone surfaces at the seven window recesses on the north elevation of the first floor. The specific window sill will randomly selected for the sample. The location of the wipe along the selected sill will then be selected using a random number generator from zero to two with zero representing the left side of the window. The wipe sample will be collected from the center of the sill, or at a distance of approximately 12 inches from the frame.
- Exterior Concrete Surfaces – One wipe sample will be collected from encapsulated concrete materials surrounding the five east elevation basement level windows. The specific window will be randomly selected. The location of the wipe will be selected using a random number generator from zero to 22 with zero representing the lower left hand corner and proceeding clockwise around the window. The wipe will then be collected from the center of the encapsulated materials, or at a distance of approximately five inches from the frames.

A summary of the wipe samples to be collected is presented on Table 2-1.

Due to the inaccessible nature of the encapsulated brownstone on the south elevation of the third floor, wipe sampling will not be conducted on those surfaces. Based on the results of the post abatement indoor air sampling event (all results indicated that PCBs were below the project action level of 450 ng/m3), no additional indoor air monitoring is proposed to be conducted.

The initial long term monitoring and sampling activities at the Kline Geology Laboratory will be conducted following the approval of this Plan.

2.2 ACTION LEVELS AND CORRECTIVE MEASURES

A combination of visual inspections and laboratory sample results will be used to verify the continued effectiveness of the applied barriers. Upon receipt of the laboratory results after each monitoring round, the data will be compared to the following action levels to determine whether additional monitoring or corrective measures are needed:

- If the barriers are intact and wipe samples are ≤ 1 µg/100 cm^2 – no additional action; long term maintenance and monitoring to continue in accordance with this plan;
- In areas where significant encapsulant deterioration or physical barrier damage is observed or PCBs are reported at concentrations ≥ 10 µg/100 cm^2, the following actions will be taken:
  - An evaluation of different encapsulants will be conducted. As noted previously, multiple coatings (up to 5 coats) in some areas were applied. Given manufacturer's specifications/dsicussions, additional coatings may not be able to be applied on these areas. If this is the case, Yale will evaluate alternative solutions in conjunction with EPA.
- If the barriers are intact and wipe samples are > 1 and < 10 µg/100 cm^2 – continued monitoring will occur to establish patterns or trends in concentration. If increasing concentrations are determined, then additional coatings may be applied and/or alternative solutions will be discussed with EPA.

These levels are considered representative and protective for this project given that the use of these areas is transitory in nature (e.g., exterior masonry surfaces). Analytical results and corrective measures will be reported to EPA in the scheduled report (see section 4).

3. TRAINING AND COMMUNICATIONS

It is not anticipated that any workers or building occupants will come into prolonged or routine contact with the encapsulated areas. The only activities that may encounter the encapsulants are planned maintenance activities. It is not anticipated that workers performing maintenance activities would require any special training or need to take extra precautions due to the presence of the coatings and new window frames; however, Yale will conduct general awareness training for facility and maintenance personnel to ensure they are aware of the importance of maintaining the encapsulant.

For any non-routine projects that involve work that could encounter the encapsulant (e.g., window replacement or repair projects [although, this is unlikely given that all windows were replaced as part of the project]), relevant and appropriate worker training requirements and procedures specific to the task will be developed and implemented.

4. REPORTING AND SCHEDULE

The activities completed as part of this plan will be documented and submitted to EPA in a long term monitoring report. This report will document the following:

- Results of the visual inspections;
- Results of the sampling and analyses;
- Comparisons to action levels and recommendations for corrective measures;
- Any corrective measures implemented;
- Any non-routine major projects conducted at the building that encountered the encapsulated area, and the training and protective measures that were implemented;
- Any proposed modifications to the monitoring and maintenance program (e.g., based on the sampling results or discussions with EPA, the frequency of the program may be modified); and
- A statement on the continued effectiveness of the encapsulants and/or secondary barriers.

It is possible that results of long term monitoring may warrant or require modifications to this plan. In the event that a modification to the MMIP is necessary, such an amendment will be proposed to EPA for approval as part of the scheduled report submittal.

It is anticipated that the initial round of inspections and sampling and reporting will be conducted in 2014. As part of the report submittal, a proposal and schedule for subsequent monitoring events will be provided.

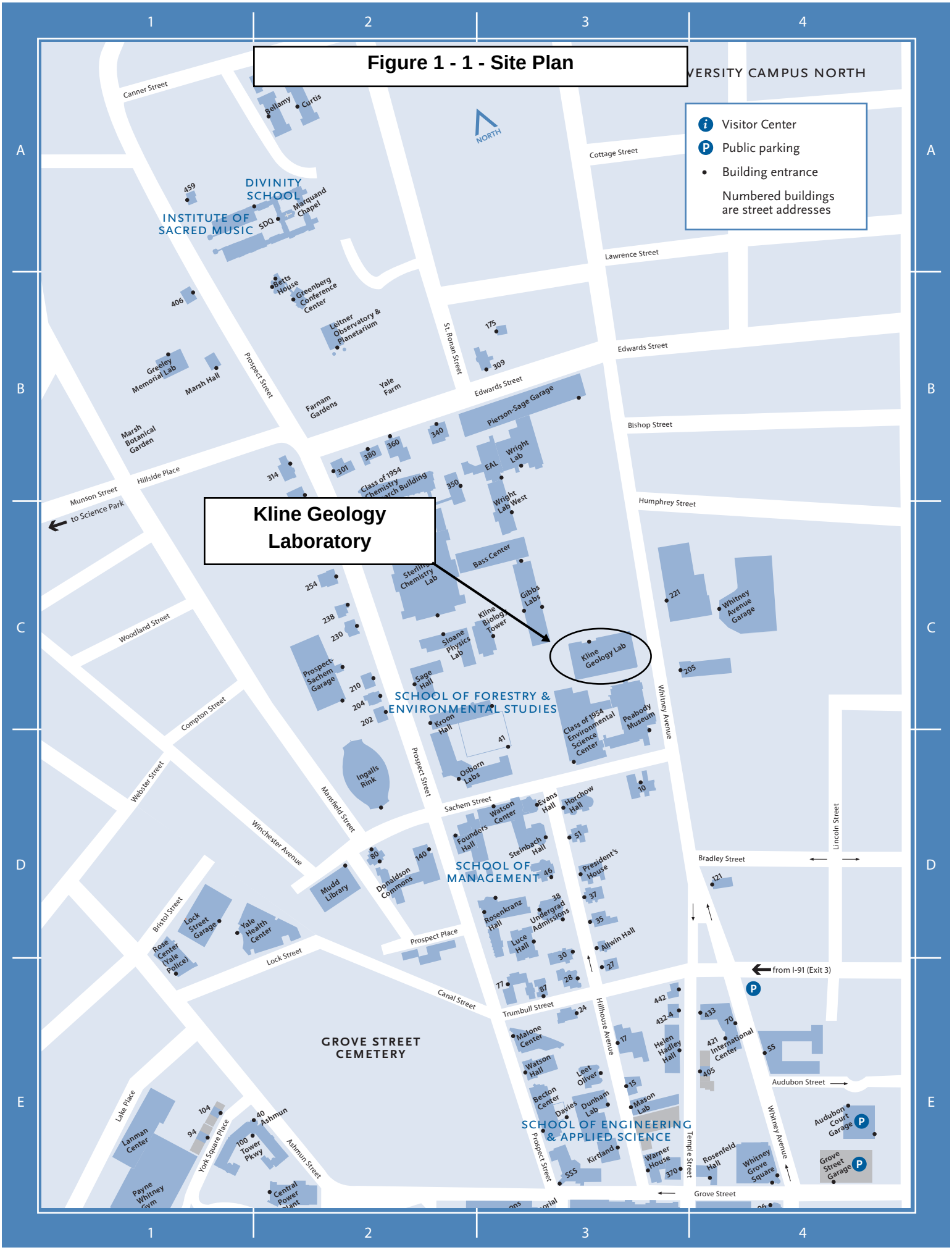
Table 2-1
Summary of Proposed Surface Wipe Sampling Plan

Kline Goelogy Laboratory

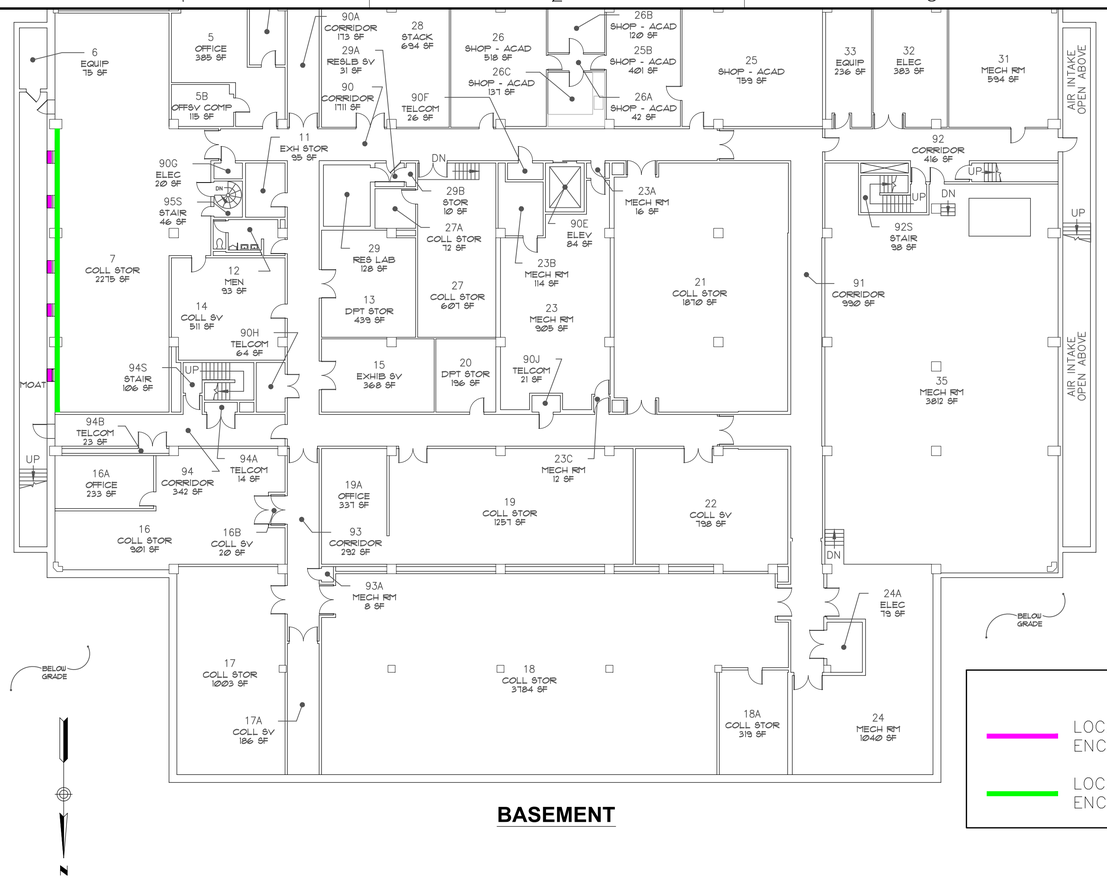
Material	Description of Area	Surface Type	Proposed Sample Frequency	Total Number of Samples
Interior CMU and Drywall Materials	Interior side of perimeter building wall from windows to first 90-degree angle in all directions (68 locations)	CMU block and drywall coated with ECI Fibertech F-50 primer and two coats of ECI Fibertech F-51 topcoat	3 Samples per floor and 1 sample in basement	10
Exterior Brick	First Floor North Elevation Window Openings (7 locations)	Brick coated with four coats of KlenzSeal liquid sealant	1 sample per 7 windows	1
Exterior Brownstone	First Floor North Elevation Window Openings (7 locations)	Brownstone Sill and Headers coated with five coats of Duroshine Invisi-Guard impregnating sealer	1 sample per 7 windows	1
Exterior Concrete	Basement Floor East Elevation Window Openings (5 locations)	Concrete materials to a distance of 11 inches from the window frames coated with five coats of Duroshine Invisi-Guard impregnating sealer	1 sample per 5 windows	1

Notes:
Wipe samples to be collected over a 100 cm^2 area in accordance with 40 CFR 761.123 and submitted for PCB analysis by USEPA Method 8082 with USEPA Method 3540C extraction.

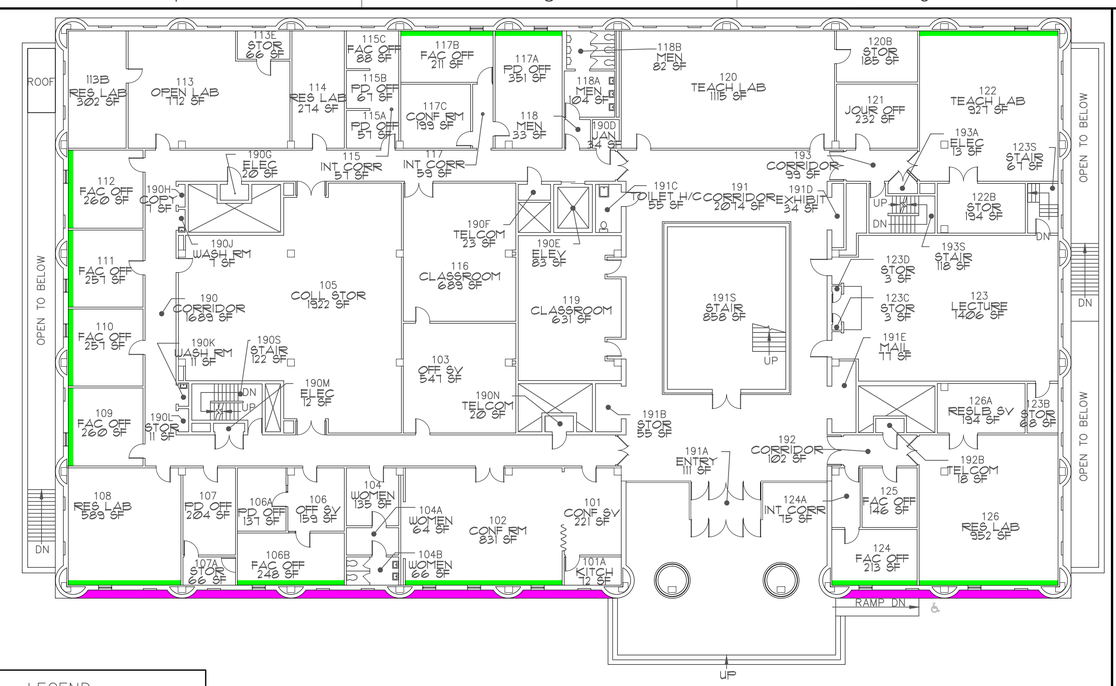
Figure 1 - 1 - Site Plan



22x34 SHEET
1:1



BASEMENT



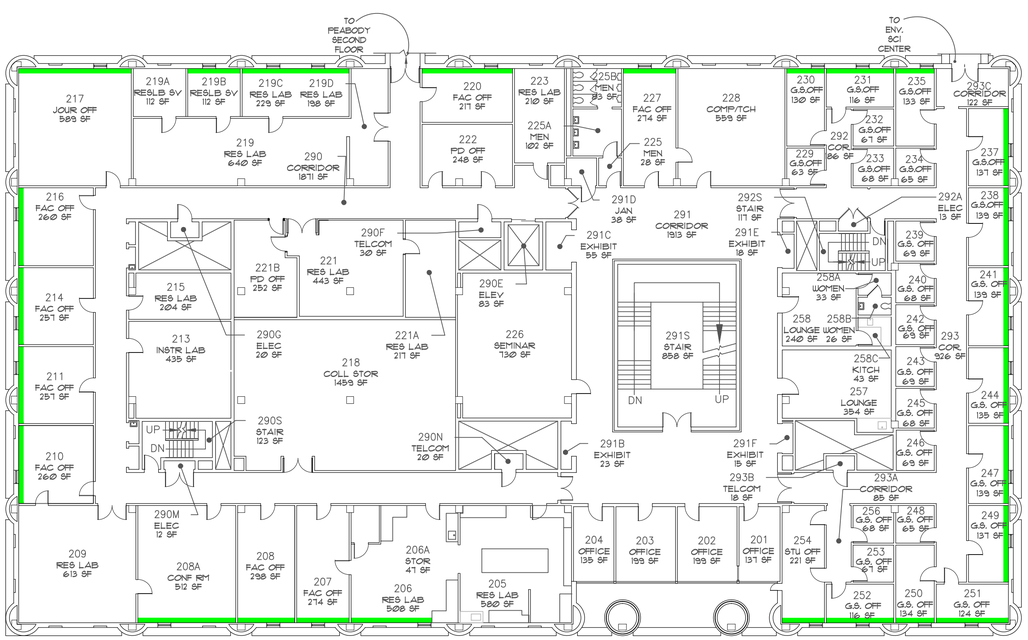
FIRST FLOOR

LEGEND

- LOCATION OF EXTERIOR ENCAPSULATED SURFACES
- LOCATION OF INTERIOR ENCAPSULATED SURFACES

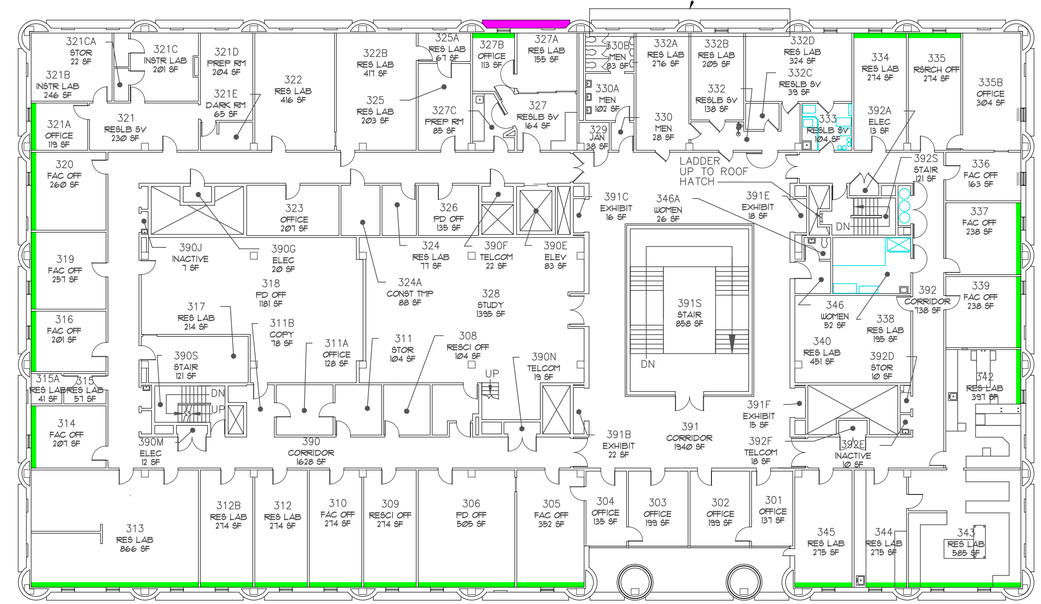
NOTE:

1. **ORIGINAL DESIGN DRAWINGS BY DAVID THOMPSON ARCHITECTS, LLC MODIFIED TO SHOW ENCAPSULATED SURFACES. ALL OTHER INFORMATION INCLUDED AS ORIGINALLY PRESENTED IN THE DESIGN DRAWINGS.**



SECOND FLOOR

WINDOW SUBJECT TO TEMPORARY IN-PLACE MANAGEMENT DUE TO LOCATION WITHIN CLEAN ROOM



THIRD FLOOR

40 Shattuck Road | Suite 110
Andover, Massachusetts 01810
866.702.6371 | www.woodardcurran.com

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REV	DESCRIPTION	DATE

DESIGNED BY: GJF
DRAWN BY: EVR
CHECKED BY: JAH
MMP-FIGURE 2- 1.DWG

AREAS OF ENCAPSULATED SURFACES

YALE UNIVERSITY
KLINE GEOLOGY LABORATORY

MMIP

JOB NO.: 224415
DATE: APRIL 2014
SCALE: 1/16"=1'-0"
SHEET: OF

FIGURE 2-1

\\ANDOVER\Projects\224415 Yale – Kline Geolab PCBs\wip\Drawings\Completion Report\VMMP-Figure 2- 1.dwg, Apr 04, 2014 – 11:36am