

Via Electronic Mail

September 30, 2022



Ms. Katherine A. Woodward, PE, PhD
US Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

Re: 2022 Long Term Monitoring Report – LGRC Tower A and Low-Rise Buildings
University of Massachusetts – Amherst
Amherst, Massachusetts

Dear Ms. Woodward:

On behalf of the University of Massachusetts (UMass), please find attached a copy of the 2022 Long Term Monitoring Report for Tower A and the Low-Rise buildings within the Lederle Graduate Research Center (LGRC) on UMass' campus in Amherst, Massachusetts. This report has been prepared to meet the reporting requirements of the Consent Agreement and Final Order (CAFO) dated June 20, 2012 between UMass and the U.S. Environmental Protection Agency (EPA) for the encapsulation of polychlorinated biphenyl (PCB) containing glazing sealants at the Tower A and Low-Rise buildings. This report provides the results of the monitoring activities conducted in accordance with the Monitoring and Maintenance Plan (MMIP) for the encapsulated polychlorinated biphenyl (PCB) containing glazing sealants at the Tower A and Low-Rise buildings and the encapsulated residual PCBs in certain exterior masonry materials at the Low-Rise building revised as per the 2021 Long Term Monitoring Report, which was approved by EPA in February 2022.

As indicated in Section 2.1 of the report, visual inspections identified several areas where the caulking and aluminum tape had been removed. A summary of the actions taken following the identification of the disturbed materials is provided in Section 2.1 and a description of the corrective actions which are in the process of being implemented is provided in Section 3.

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

Sincerely,

WOODARD & CURRAN INC.

A handwritten signature in blue ink, appearing to read "George J. Franklin", is written over a light blue horizontal line.

George J. Franklin, CHMM
Project Manager



2022 LONG TERM MONITORING REPORT

PCB Encapsulated Surfaces

Lederle Graduate
Research Center

Tower A and Low-
Rise Buildings
Amherst,
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UMass LGRC

September 2022

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1. INTRODUCTION

This monitoring report has been prepared by Woodard & Curran on behalf of the University of Massachusetts (UMass) in accordance with the requirements of the Consent Agreement and Final Order (CAFO) dated June 20, 2012 between UMass and the U.S. Environmental Protection Agency (EPA) for the Lederle Graduate Research Center (LGRC) Tower A and Low-Rise buildings located at 701 – 740 North Pleasant Street on the UMass campus in Amherst, Massachusetts (see Figure 1-1).

This monitoring report provides the results of the monitoring activities conducted in accordance with the Monitoring and Maintenance Implementation Plan (MMIP) developed in accordance with the requirements of the CAFO for the encapsulated polychlorinated biphenyl (PCB) containing window glazing sealants at the Tower A and Low-Rise buildings and the encapsulated residual PCBs in certain exterior masonry materials at the Low-Rise building and revised per the proposed 2021 Long Term Monitoring Report, which was approved by EPA in February 2022.

1.1 Background

As described in the CAFO, an approach was developed for the encapsulation of PCB-containing window glazing sealants as an interim measure until the glazing sealant could be removed during future window replacement projects. There were approximately 900 windows located at the LGRC subject to the CAFO. To date, approximately 649 of the 900 windows have been removed. The removals have been conducted in the following areas:

- As part of the National Institute of Health (NIH) renovations, 42 laboratory windows on the 3rd, 7th, and 8th floors of Tower A were removed as reported in the PCB Remediation Activities Completion Report dated December 17, 2012.
- All windows within the Low-Rise building, including the library areas and the 2nd floor bridge connector between the Low-Rise building and Tower A, were removed as either part of a large-scale window replacement project in 2014 (refer to the September 17, 2013 notification submittal and the December 29, 2014 Completion Report) or as part of the A106 renovations conducted in 2018 (refer to the notification submittal dated August 22, 2018 and the *Final Completion Report for Room A106 Renovations* dated September 23, 2019).
- Seven laboratory windows in Tower A Rooms 501 through 504 were removed as part of a laboratory renovation project in 2014/2015 (refer to the 2015 Long Term Monitoring Report – LGRC Tower A and Low-Rise Buildings, dated September 29, 2015).

In addition to the specific window removals mentioned above and prior to the CAFO, removal and off-site disposal of ≥ 50 parts per million (ppm) exterior perimeter window caulking and the remediation of exterior building materials impacted by PCBs was conducted in accordance with EPA's June 22, 2007 Alternative Decontamination Approval under 40 CFR 761.61(a), 62, and 79(h). The remediation activities included the removal and off-site disposal of the exterior caulking and removal of a minimum of $\frac{1}{2}$ inch of exterior concrete masonry around each of the windows to achieve the applicable high or low occupancy use clean up criteria (≤ 1 ppm for first floor locations and ≤ 25 ppm for second and third floor locations).

However, as described in the CAFO Notification submittal on September 17, 2013, the 2007/2008 exterior remediation activities were not completed at the 50 Type L windows on the Low-Rise and bridge connector

due to the inaccessibility of exterior perimeter window caulking at these locations (the windows are located between two structural concrete features approximately 1.5 feet apart). Subsequent remediation activities at these 50 Type L windows were completed in 2014 and 2018. Remediation included caulking and window removal and the in-place management of residual PCB impacts > 25 ppm in exterior concrete, along with long term monitoring.

1.2 Summary of Interim Measures – Interior Glazing Sealants

Beginning in July 2012, Interim Measures were implemented/completed at the respective windows in Tower A and the Low-Rise building. A summary of the activities is provided below.

1.2.1 Summary of Remedial Activities

In accordance with the CAFO, Interim Measures were conducted to address the presence of PCBs ≥ 50 ppm in glazing sealants in the Tower (high rise) and Low-rise buildings as follows:

- A general cleaning of the window units and surrounding surfaces was conducted via the removal of dust and debris using a vacuum equipped with HEPA filtration followed by cleaning of surfaces with a standard industrial/commercial cleaner (Klean-Strip TSP Plus).
- Containment of the glazing sealants was achieved through the installation of a layer of aluminum foil tape and a bead of silicone caulking to reduce potential direct contact exposures.

As noted previously, all windows in the Low Rise were removed in 2013, 2014, and 2018. As such, the interim measure glazing containment condition is no longer present within the Low-Rise.

1.2.2 Visual Inspection and Verification/Baseline Sampling

Following completion of the Interim Measures, visual inspections were conducted to confirm completion of the activities. Post-cleaning verification wipe samples were collected from accessible non-porous surfaces surrounding the windows and post-encapsulation surface wipe samples were collected from the encapsulated surfaces and window frames following the procedures and frequencies described in the Interim Measures Plan (IMP). A summary of the results of the initial/baseline wipe samples is provided below.

Post-Cleaning Wipe Samples

Post-cleaning wipe samples were collected from window ledges as part of the interim measures implementation and prior to the removal of the Low-Rise windows. Following the cleaning of the surrounding areas, verification wipe samples were collected from the non-porous window ledges adjacent to the windows. In accordance with the IMP, post-cleaning wipe samples were collected at a frequency of one sample per floor in the high rise and at a frequency of one sample per 20 windows in the Low-Rise. Analytical results of the verification wipe samples indicated that PCBs were below the high occupancy use cleanup standard for non-porous surfaces ($10 \mu\text{g}/100 \text{ cm}^2$) in all samples with results reported as follows:

- Total PCBs were reported as non-detect ($< 0.20 \mu\text{g}/100 \text{ cm}^2$) in 31 samples; and
- Total PCBs were present in 23 samples at concentrations below $10 \mu\text{g}/100 \text{ cm}^2$, with concentrations ranging from 0.20 to $2.0 \mu\text{g}/100 \text{ cm}^2$ and an average concentration of $0.56 \mu\text{g}/100 \text{ cm}^2$.

Post-Encapsulation Wipe Samples

To confirm that the aluminum foil tape and caulking were effective encapsulants of PCBs in the glazing sealants, wipe samples were collected from the surface of the newly installed caulking following standard wipe sampling procedures described in 40 CFR 761.123. A summary of the analytical results from the wipe samples is as follows:

- Total PCBs were reported as either non-detect (ten samples at $< 0.20 \mu\text{g}/100 \text{ cm}^2$) or $< 1 \mu\text{g}/100 \text{ cm}^2$ (five samples with reported concentrations ranging from 0.21 to $0.95 \mu\text{g}/100 \text{ cm}^2$) in 15 of the 17 samples collected; and
- Total PCBs were reported at concentrations $> 1 \mu\text{g}/100 \text{ cm}^2$ in two samples with reported concentrations of 1.5 and $3.1 \mu\text{g}/100 \text{ cm}^2$ (both samples were collected from areas encapsulated during the NIH renovation prior to modifications to the application methods).

To evaluate the suitability of an alternative wipe sampling procedure to assess “surface” concentrations on the newly applied porous caulking, additional wipe samples were collected using four different solvents/methods: hexane, isopropyl alcohol, saline, and dry wipe. Wipe samples were collected from the surfaces of the glazing sealants and from the encapsulated surfaces following installation of the aluminum tape and caulking barriers. Results from the wipe samples were described in detail in the PCB Interim Measures Completion Report dated June 2, 2014 and December 2014 Revised MMIP and indicated that while all four methods were able to detect PCBs on the surface of the source materials and the encapsulated surfaces, the more aggressive solvents reported higher results.

Based on these results, the December 2014 Revised MMIP included the potential collection of saline wipes to evaluate the potential presence of PCBs on the surface of the encapsulating barriers; however, saline wipes were not analyzed during subsequent events due to the continued results of the hexane wipes as presented in this report (i.e., hexane wipes continued to be below target levels).

1.3 Summary of Remediation and Verification Activities – Exterior Concrete at Type L Windows

Remediation activities associated with residual PCBs in exterior concrete surfaces surrounding the 50 Type L windows in the Low-Rise and the bridge connector were conducted in conjunction with the 2013/2014 window removal project and the 2018 Room A106 renovation project.

1.3.1 Summary of Remedial Activities

The remediation consisted of the following:

- Exterior perimeter window caulking and the window units containing ≥ 50 ppm PCBs was removed for disposal as PCB Bulk Product Waste using hand tools as part of the window removal project.
- Residual PCBs were encapsulated through the application of the following:
 - Liquid Epoxy Coating – A two-inch-wide strip of epoxy (either Sikagard 62 liquid epoxy or DevCon 5-minute epoxy), centered on the former joint, was applied to concrete surfaces;
 - Elastomeric Coating – Two coats of Sikagard 550W elastomeric coating were applied to concrete materials away from the joints and extending along the inner face of the concrete façade to match the rest of the building façade; and

- Replacement Frames – The replacement window frames and a replacement bead of caulking were installed over the former caulked joints.

Detailed descriptions of the implemented activities were presented in the *Window Removal Completion Report* submittal dated December 29, 2014 and in the *Final Completion Report for Room A106 Renovations* dated September 23, 2019.

1.3.2 Visual Inspection and Verification/Baseline Sampling

Following application/installation of each of the above barriers, visual inspections were conducted. For liquid coatings, the visual inspection was conducted to confirm the coatings were applied over the designated areas and had a smooth uniform appearance. For window frames and caulking, the inspection confirmed installation in accordance with the project specifications.

To confirm that the epoxy and elastomeric coatings were effective encapsulants of residual PCBs in the concrete, wipe samples were collected from the surfaces of the newly applied coatings at a frequency of one sample for every five window locations (twelve wipe samples were collected from each type of coating due to the phased sequencing of work at the Type L windows). A summary of the analytical results from the wipe samples is as follows:

- Liquid Epoxy Coatings – Analytical results from eleven of the twelve samples indicated that PCBs were non-detect (9 samples at $< 0.20 \mu\text{g}/100\text{cm}^2$) or less than the encapsulation target of $1 \mu\text{g}/100\text{cm}^2$ (2 samples with reported concentrations of 0.22 and $0.28 \mu\text{g}/100\text{cm}^2$). PCBs in the remaining sample were reported at concentration of $1.4 \mu\text{g}/100\text{cm}^2$.
- Elastomeric Coatings – Analytical results indicated that PCBs were either non-detect (8 samples at $< 0.20 \mu\text{g}/100\text{cm}^2$) or less than the encapsulation target of $1 \mu\text{g}/100\text{cm}^2$ (4 samples with a maximum concentration of $0.56 \mu\text{g}/100\text{cm}^2$).

1.4 Monitoring and Maintenance Implementation Plan

In accordance with the requirements of the CAFO, annual monitoring is to be completed as part of the Interim Measures to monitor, over time, the effectiveness of the remedy for encapsulated PCB-containing glazing sealants. In addition, and as described in the December 2014 Revised MMIP, monitoring is also to be conducted for the residual PCB impacted exterior concrete encapsulated through the application of liquid coatings and replacement frames at the Type L windows. As presented in 2018 long term monitoring report, the removal of windows in Low-Rise Room A106 was completed in Q4 of 2018. Therefore, indoor monitoring will no longer be conducted in this space consistent with other low-rise locations and spaces within Tower A where the glazing sealants have been removed through window replacement.

As discussed in the MMIP, the evaluation of the effectiveness of the measures will be accomplished through:

- Visual inspection – to evaluate the physical condition of the new caulking and/or window frames; to look for signs of separation between the silicone sealant/aluminum foil tape and the glazing sealant, window frame or glass; to look for signs of disturbance to the new sealants or exterior elastomeric coatings (Type L windows); and a general inspection of the surrounding areas.
- Accessible, Interior Non-Porous Surface Wipe Samples – A total of 8 wipe samples are to be collected from the Tower A high rise from adjacent window ledges /sills to assess the effectiveness

of the Interim Measure in reducing / eliminating PCB-containing dust or particulate levels on these adjacent surfaces.

- Encapsulated, Interior Surfaces Wipe Samples – A total of 8 wipe samples are to be collected from the Tower A high rise from the new caulking/adjacent frame to assess the concentrations of PCBs on the surface of the encapsulating barrier; and
- Indoor Air Samples – 5 samples are to be collected from the Tower A high rise to assess indoor air levels of PCBs over time.

Annual monitoring activities were initiated in 2015. Results of the monitoring from 2015 through 2021 were consistent with the baseline monitoring results and communicated to EPA in the annual monitoring reports submitted in September of each year.

1.4.1 Plan Modifications

Based on the results of the long term monitoring from 2015 through 2021, a modification was proposed to the long term monitoring program in the 2021 Long Term Monitoring Report. The proposed change was to modify the frequency of the sampling components of the monitoring program to bi-ennial indoor air sampling and wipe sampling of both the accessible interior non-porous surfaces and the encapsulated surfaces/window frames. The visual inspections would still be conducted annually.

EPA provided several comments to the 2021 Report and proposed modifications, of which responses were submitted to EPA on February 1, 2022. EPA approved the proposed modifications to the sampling frequencies via email on February 1, 2022; as such, the 2022 monitoring activities followed this revised plan.

As part of a response to a comment regarding seasonal variations in indoor air quality, specifically in certain elevator lobbies, an additional round of indoor air samples was proposed to be conducted in February 2022 to supplement the existing data collected in May, July and August. The results are presented in the following section.

1.5 Indoor Air Sampling – February 2022

Indoor air samples were collected from the elevator lobby areas on the first, second, and third floors of Tower A in February to evaluate conditions in those spaces during different periods of the year.

Air samples were collected on February 8, 2022 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. At each of the sample locations, a low volume PUF cartridge was connected to a personal air pump with flexible tubing and the cartridge was positioned between three and five feet above the floor using a telescoping tubing stand. Samples were collected at an approximate flow rate of 2.5 L/min for minimum of six hours. The flow rates were set by the equipment rental supply company prior to delivery and verified and adjusted as needed in the field using a digital flow rate calibrator. Atmospheric information (ambient temperatures and barometric pressures) was obtained from a portable commercially available weather monitoring station. Pumps and flow rates were monitored periodically throughout the sample collection period. At the end of the required sample interval, the pump was shut off and the cartridge placed in aluminum foil, labeled, and placed on ice for delivery to the analytical laboratory.

Analytical results indicated that total PCBs were detected at concentrations of 5.3 ng/m³, 23.7 ng/m³, and 41.7 ng/m³ with an average detected concentration of 23.6 ng/m³. As shown on the table below, these results are within the range of previous sampling results from these areas (albeit on the lower end of the range) and well below the project specific action level of 500 ng/m³ (EPA's exposure levels for evaluating PCBs in indoor school air for students ages 19 plus and adults, as amended in July 2015).

Total PCBs in Indoor Air Samples – Elevator Lobby Areas (ng/m³)

Date	399A	299T	199Y
2016	33.8		
2017	374.1	175.2	
2018		95.4	
2019	250.9		
2020		116.1	139.1
2021	92.3	72.2	5.8
2022	41.7	23.7	5.3

The complete analytical laboratory report and the associated data validation summary are provided in Appendix A and a summary of the analytical results is provided on Table 2-1.

Given these results, no other modifications to the indoor air program are proposed.

2. 2022 MONITORING ACTIVITIES

The 2022 monitoring activities consisted of visual inspections only, as described below. The locations of the windows are presented on Figures 2-1 through 2-4.

2.1 Visual Inspections

Visual inspections of the interior encapsulated surfaces were conducted at the exterior elastomeric coatings of the Type L windows of the Low-Rise building and the Tower A high rise windows. The inspections consisted of an assessment as described in Section 1.4.

For the elastomeric coatings on the exterior side of the Type L windows, no signs of disturbance or deterioration were observed during the visual inspections.

The visual inspections of the applied aluminum tape and caulking over the glazing sealants of the Tower A windows identified several locations where the caulking and aluminum tape had been removed. Because several spaces were not accessible during the initial inspection a comprehensive follow-up inspection was conducted on July 28, 2022 and included all spaces with windows included in the interim measures plan.

The caulking and aluminum tape were observed missing from the elevator lobby windows on the 6th and 10th floors and from windows in Rooms 403F, 404, 406, 408. In Room 1010 a clear caulking was observed over the aluminum tape in place of the originally installed black caulking. It was noted that a sun-blocking film which is adhered to the interior side of the glass throughout Tower A had been removed at many windows including those with the missing caulking and aluminum tape; however, at many locations where the film had been removed the caulking and tape had not been disturbed. At locations where the caulking and tape had been removed, no disturbance to the glazing sealants was noted.

Following confirmation of the extent of the missing barrier materials, UMass EH&S conducted interviews with staff, maintenance, and custodial personnel in the Tower A building to determine when and for what purpose the materials had been removed. The interviews were not successful in identifying the individuals responsible for the removal of the materials or a time frame for when they may have been removed (the materials were not noted as missing during the June 2021 visual inspections). In addition, UMass EH&S reviewed the Work Order System entries for the Tower A building. The work order system is required for all maintenance and renovation activities and includes an "All Hazard Review" by EH&S which identifies the presence of hazardous building materials that may be disturbed. No work order entry related to the windows had been submitted.

Refer to Section 3 for a discussion of corrective actions being implemented.

2.2 Non-Routine Maintenance Activities

Based on discussions with UMass personnel, no non-routine maintenance activities that disturbed the encapsulated materials were observed or conducted since the last Monitoring Report submittal (except as noted above).

Comprehensive gut renovations and window replacement projects are currently underway on the 15th and 16th floors. The final phase of work associated with those renovations will include the removal and replacement of windows from Rooms 1506 through 1512 and Rooms 1606 through 1611. The window

replacement is anticipated to be conducted during the latter part of 2022 or the first quarter of 2023. Notification of the planned removals will be provided to EPA by UMass prior to commencing the start of the removals in accordance with the requirements of the CAFO. A summary of the current status of window replacements for all spaces governed by the CAFO is provided on Table 2-2.

3. SUMMARY AND CONCLUSIONS

Results of the 2022 long term monitoring event were as follows:

- As reported by UMass personnel, barrier materials on windows on the 4th, 6th, and 10th floors were removed as part of unplanned/unreported activities in 2021/2022. Visual inspections indicated that the encapsulating barriers were in good physical condition at other locations throughout Tower A.
- UMass EH&S is in the process of implementing corrective actions at those locations where the barrier materials were observed missing and is developing communications to staff, students, and faculty within Tower A regarding the barrier materials.
- Analytical results from indoor air samples collected from the elevator lobbies on the 1st, 2nd, and 3rd floors reported PCBs at concentrations consistent with or slightly lower than previous sampling events and remain at concentrations well below the action level of 500 ng/m³.

3.1 Corrective Actions

In accordance with the MMIP, physical damage to the caulking or tape will be repaired. At each location, the window and surrounding surfaces are to be cleaned and the glazing sealants will then be covered with metal tape and caulking in accordance with Section 4.2 of the IMP.

Following installation of the barrier materials, visual inspections will be conducted to confirm that the underlying glazing sealants are completely covered. Following completion of the visual inspections, a total of 4 post-installation wipe samples will be collected from the surface of the newly installed caulking and window frames and 4 wipe samples will be collected from the surrounding ledges. The locations of the wipe samples will be randomly selected and will include 2 locations from the 4th floor and 1 location from each of the 6th and 10th floors. Results of the wipe samples will be compared to the action levels as per the IMP and MMIP.

UMass EH&S will send a letter to facilities and campus planning, the laboratory coordinators, the department heads and lead faculty members for the Chemistry, Biochemistry, and Mechanical Engineering departments who occupy the various spaces in the building. The letter will serve as a reminder of purpose of the encapsulating barriers and the need to contact EH&S if any activities are planned that may disturb the materials. Based on the large volume of turnover amongst staff and faculty, the letter will also summarize the campus-wide Work Order System which includes an All Hazard Review to identify any hazardous building materials that may be disturbed during planned renovations and maintenance activities.

The replacement of the aluminum tape and caulking commenced in September 2022. Documentation regarding the completion of the installation and the post application visual inspections and surface wipe sampling will be provided to EPA following the completion of the activities.

3.2 Modifications to the Long Term Monitoring and Maintenance Plan

Based on the results of the inspections and sampling activities conducted in 2022, no modifications to the MMIP are proposed.

3.3 Next Monitoring Event

In accordance with the approved modifications to the MMIP, the next monitoring event will be conducted in June 2023 and will include annual visual inspections of the encapsulated glazing sealants and exterior masonry surrounding the Type L windows, the collection of the bi-ennial indoor air samples, and the collection of bi-ennial surface wipe samples in accordance with the MMIP.

TABLES

Table 2-1: Summary of Long Term Monitoring Indoor Air Sampling Results

Table 2-2: Summary of Window Removal Status and Scheduled Renovations

Table 2-1
Summary of Long Term Monitoring Indoor Air Sampling Results
UMass Amherst

Location	Air Sample	PCB Concentration (ng/cartridge)	Flow Rate (L/Minute)	Duration (minutes)	PCB Concentration (ng/m ³)
Project Action Level: 500 ng/m³					
February 28, 2022 Average Recorded Temperature: Morning - and Afternoon					
Tower A - 199Y	LGRC-IAS-199Y-001	7.1	2.74	470	5.3
Tower A - 299T	LGRC-IAS-299T-002	29.4	2.63	465	23.7
Tower A - 399A	LGRC-IAS-399A-003	52	2.63	470	41.7

Notes:

Project Specific Risk-based Action Level based on the EPA's exposure levels for evaluating PCBs in indoor school air for students ages 19 plus and adults (July 2015).

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.

ng/m³ = nanograms per cubic meter

Table 2-2
Summary of Window Removal Status and Scheduled Renovations

Tower A LGRC

Floor	Windows Summary		Comment
	Windows Removed	Windows Remaining with PCB - containing sealant	
Low Rise and Bridge Connector			
Low-Rise	All windows removed in 2014 or 2018	None	
Library	All windows removed in 2014	None	
Bridge Connector	All windows removed in 2014	None	
Tower A - Student or Faculty Rooms/Labs			
1	Not Applicable		Windows on 1st floor are storefront windows which do not have PCB-containing glazing sealants
2	Not Applicable		Spaces on 2nd floor do not have windows
3	Rooms 320C-L in 2012	None	
4	None	Rooms 402A, 403B-F, 404, 406, 407, 408	No schedule developed to date; re-application of interim measures in Rooms 403F, 406, and 408 to be conducted
5	Rooms 501, 502, 503, 504 in 2015	Rooms 505B, 506, 507, 508, 509, 510,	No schedule developed to date
6	None	Rooms 601, 602, 604, 605, 606, 608, 609, 610	No schedule developed to date
7	720A-K in 2012	None	
8	820B-K in 2012	None	
9	None	Rooms 901, 902, 903, 903A, 904, 906, 911,	No schedule developed to date
10	None	Rooms 1002, 1003, 1003C, 1004, 1008, 1006A, 1009, 1010, 1019,	No schedule developed to date
11	None	Rooms 1103B, 1104, 1105, 1106, 1108, 1113,	No schedule developed to date
12	Rooms 1205, 1207, 1208, 1208A, 1209	None	
13	None	Rooms 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312A	Vacant, No schedule developed to date
14	None	Rooms 1403, 1404, 1405, 1407, 1409, 1410, 1411, 1412	Vacant, No schedule developed to date
15	None	Rooms 1506, 1507, 1508, 1509, 1510, 1512	Vacant, windows scheduled to be replaced in 2022/2023
16	None	Rooms 1606, 1607, 1608, 1609, 1610, 1611	Vacant, windows scheduled to be replaced in 2022/2023

Table 2-2
Summary of Window Removal Status and Scheduled Renovations

Tower A LGRC

Floor	Windows Summary		Comment
	Windows Removed	Windows Remaining with PCB - containing sealant	
Tower A - Transitory Spaces or non-occupied rooms			
All floors - Elevator Lobbies	None	All floors	Large continuous cross floor windows; No schedule developed to date; interim measures to be re-applied to windows on the 6th and 10th floors
Stairwell window - Floors 3-16	None	All floors	Large continuous cross floor windows; No schedule developed to date
Restrooms (Floors 2, 3, 4, 5, and 6)	None	Floors 2,3,4,5, and 6	No schedule developed to date
Janitorial closet, mechanical /utility room (Floors 6, 8, 12, 13, 14, 15, and 16)	None	Floors 6,8,12,13,14,15, and 16	No schedule developed to date

FIGURES

Figure 1-1: Site Location Map

Figure 2-1: Areas of Encapsulated Materials – Tower A 1st – 4th Floors

Figure 2-2: Areas of Encapsulated Materials – Tower A 5th – 8th Floors

Figure 2-3: Areas of Encapsulated Materials – Tower A 9th – 12th Floors

Figure 2-4: Areas of Encapsulated Materials – Tower A 13th – 16th Floors



University of Massachusetts Amherst Campus Map

July 2011

University Switchboard - (413) 545-0111

Tour Service - (413) 545-4237

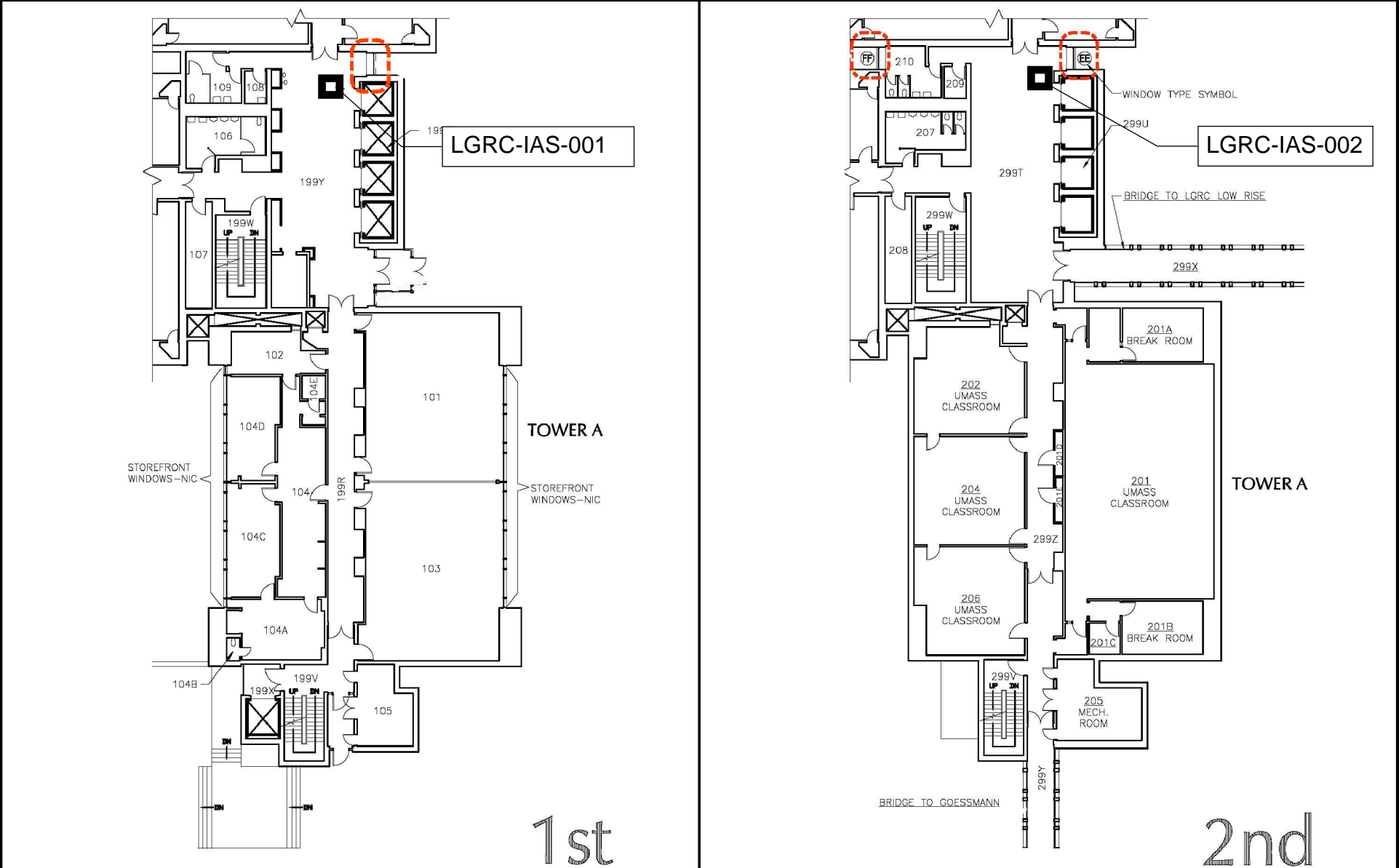
Robsham Memorial Visitors Center - (413) 545-0306

Map Key


- 31 Numbered Parking Lots
- P Metered/Public Parking
- ▲ PVTA Bus Stops
- ✕ Traffic Lights


Project Location

Figure 1-1 Site Location Map



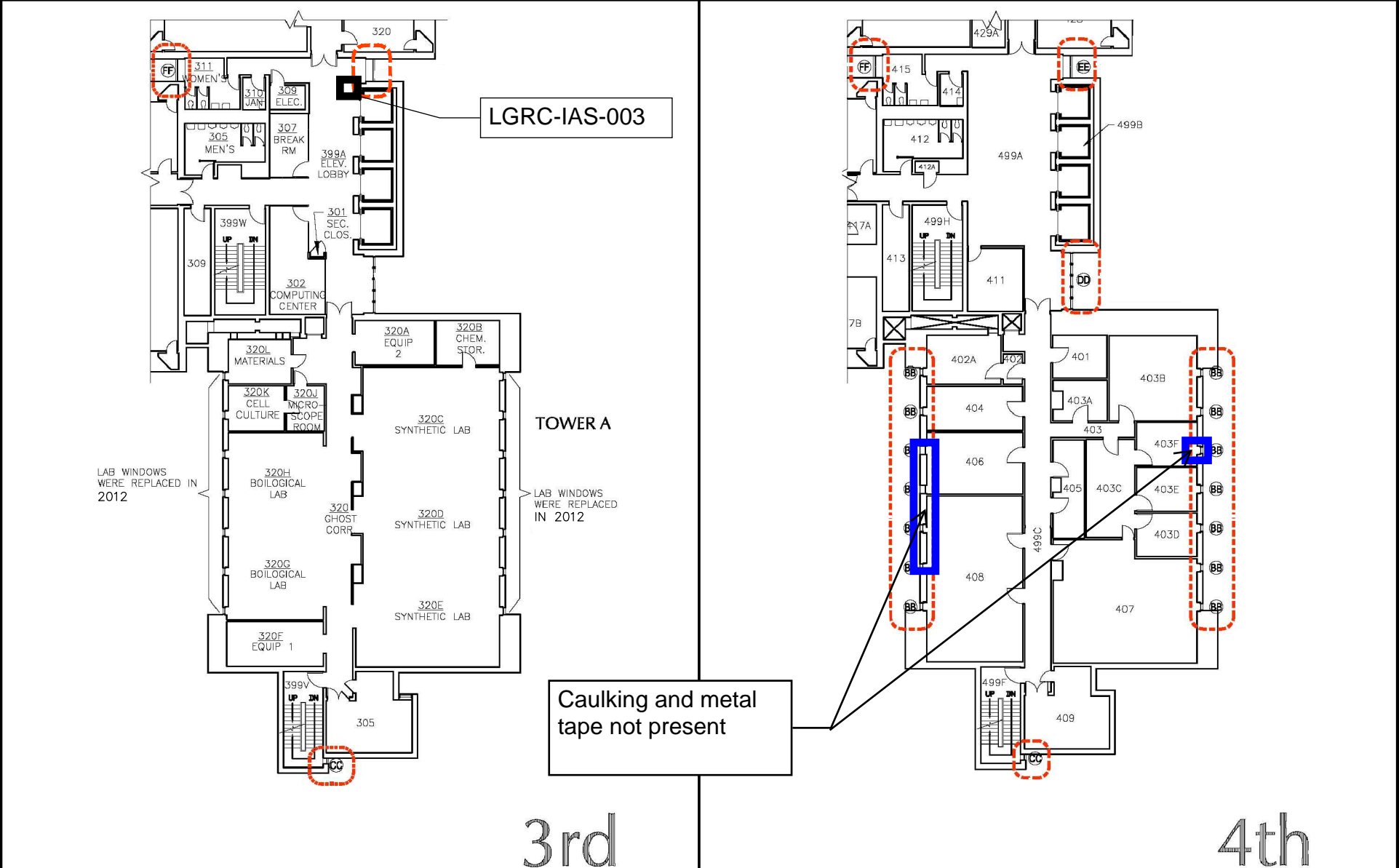
LEGEND

 LOCATION OF WINDOWS/GLAZING SEALANTS INCLUDED IN THE INTERIM MEASURES AND SUBJECT TO LONG TERM MONITORING AND MAINTENANCE

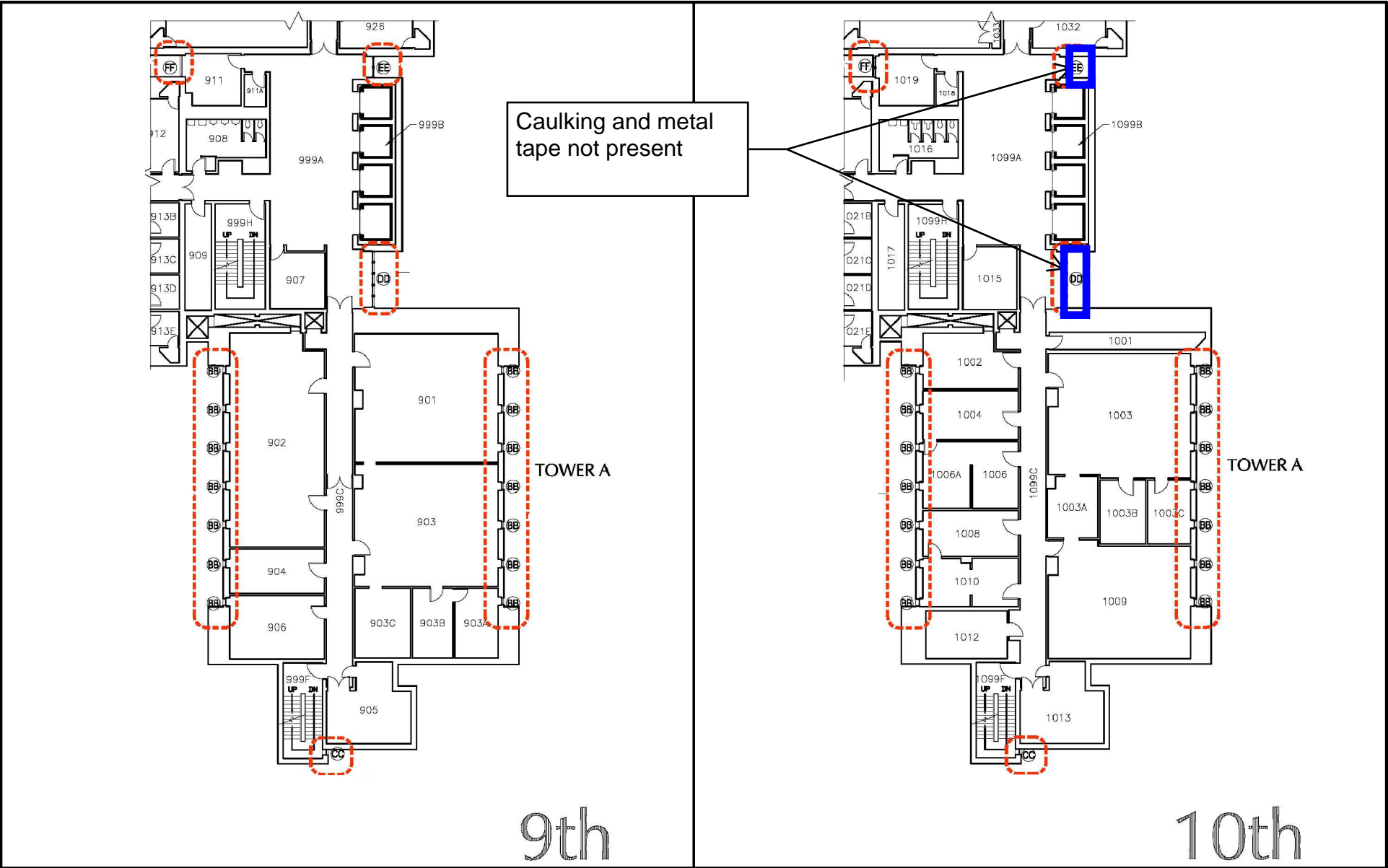
 INDOOR AIR SAMPLE LOCATION - FEBRUARY 2022

NOTE:


1. ORIGINAL DESIGN DRAWINGS BY GOLDMAN REINDORF ARCHITECTS INC.



Caulking and metal tape not present

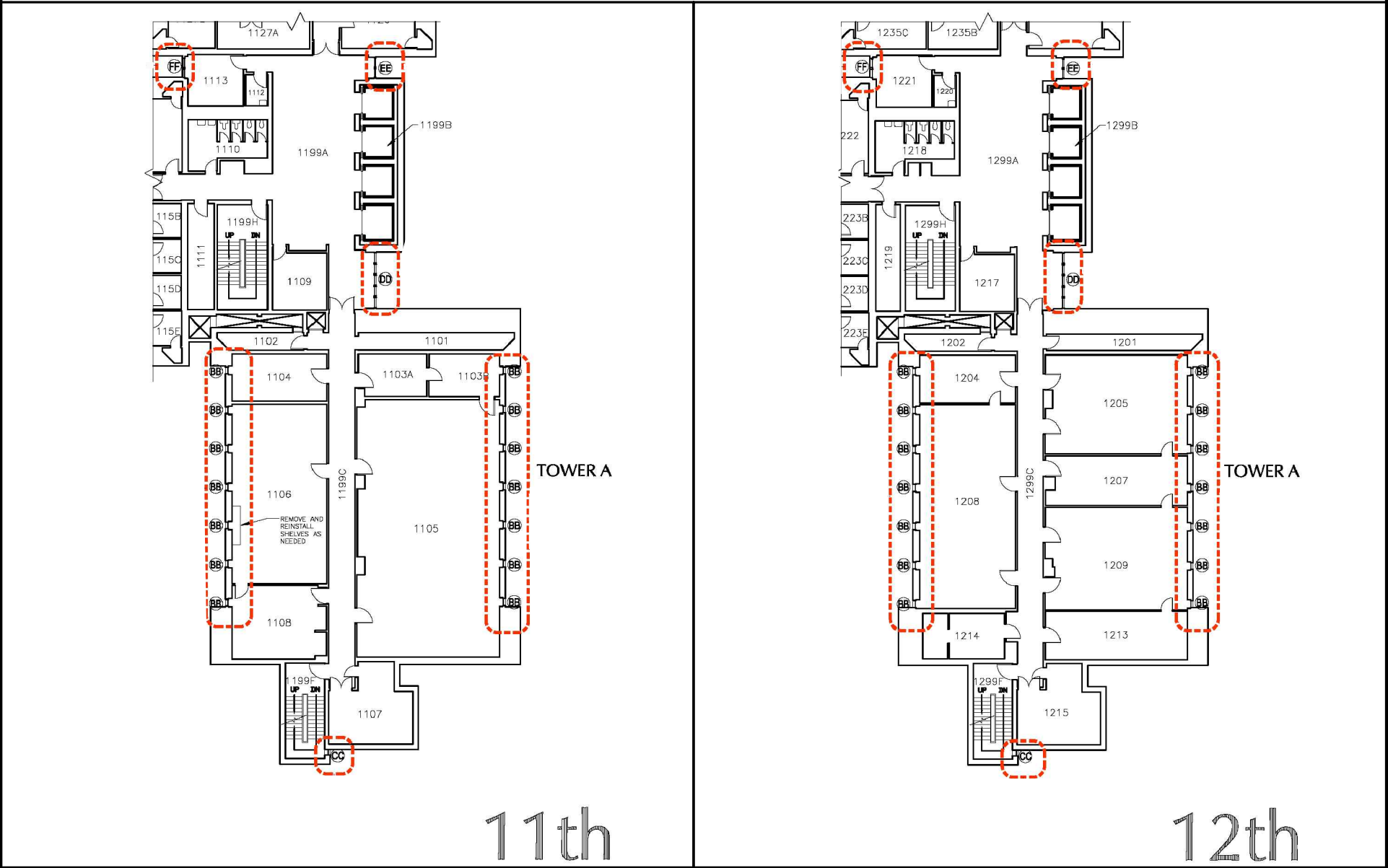


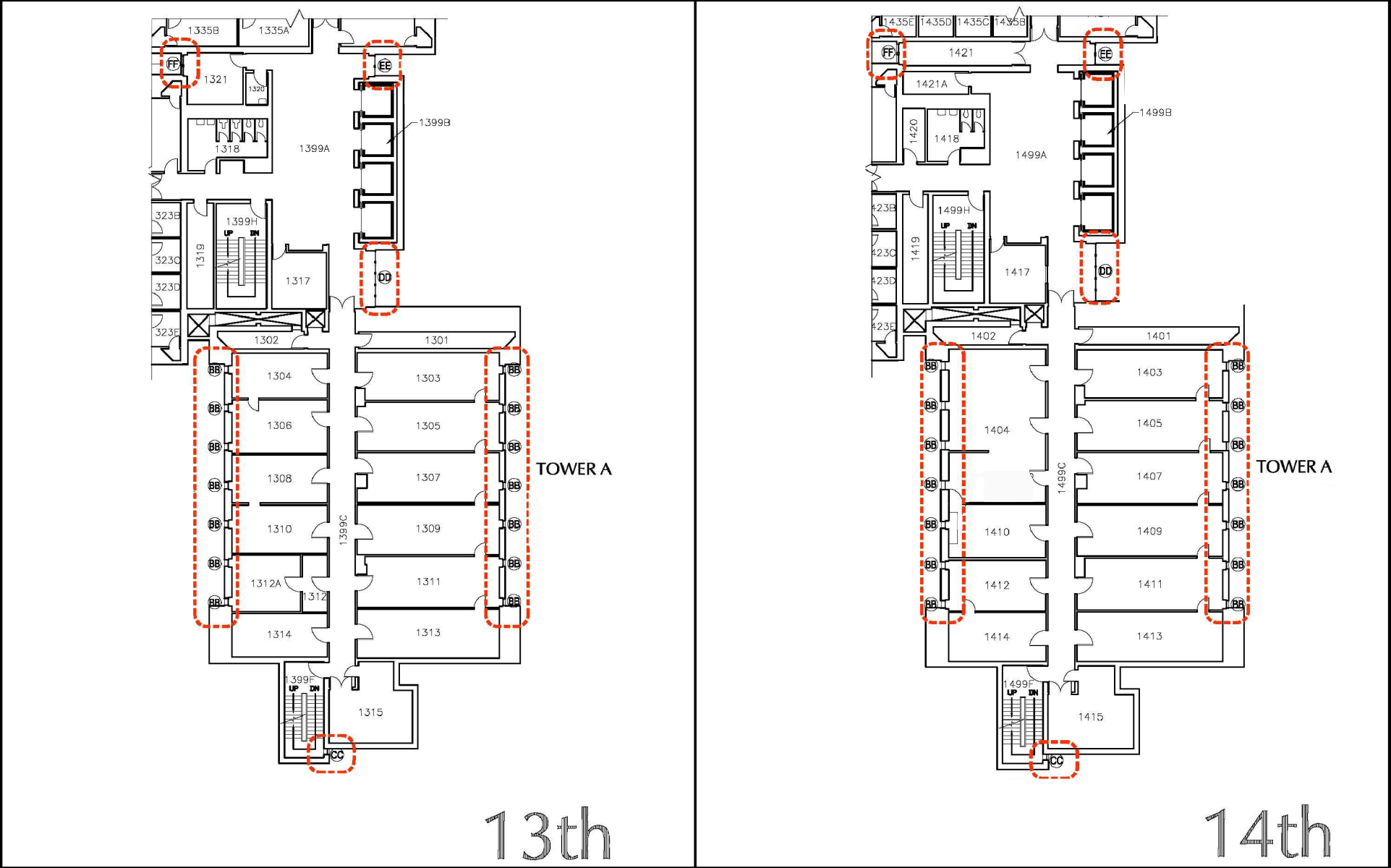
LEGEND

 LOCATION OF WINDOWS/GLAZING SEALANTS INCLUDED IN THE INTERIM MEASURES AND SUBJECT TO LONG TERM MONITORING AND MAINTENANCE


NOTE:

1. ORIGINAL DESIGN DRAWINGS BY GOLDMAN REINDORF ARCHITECTS INC.



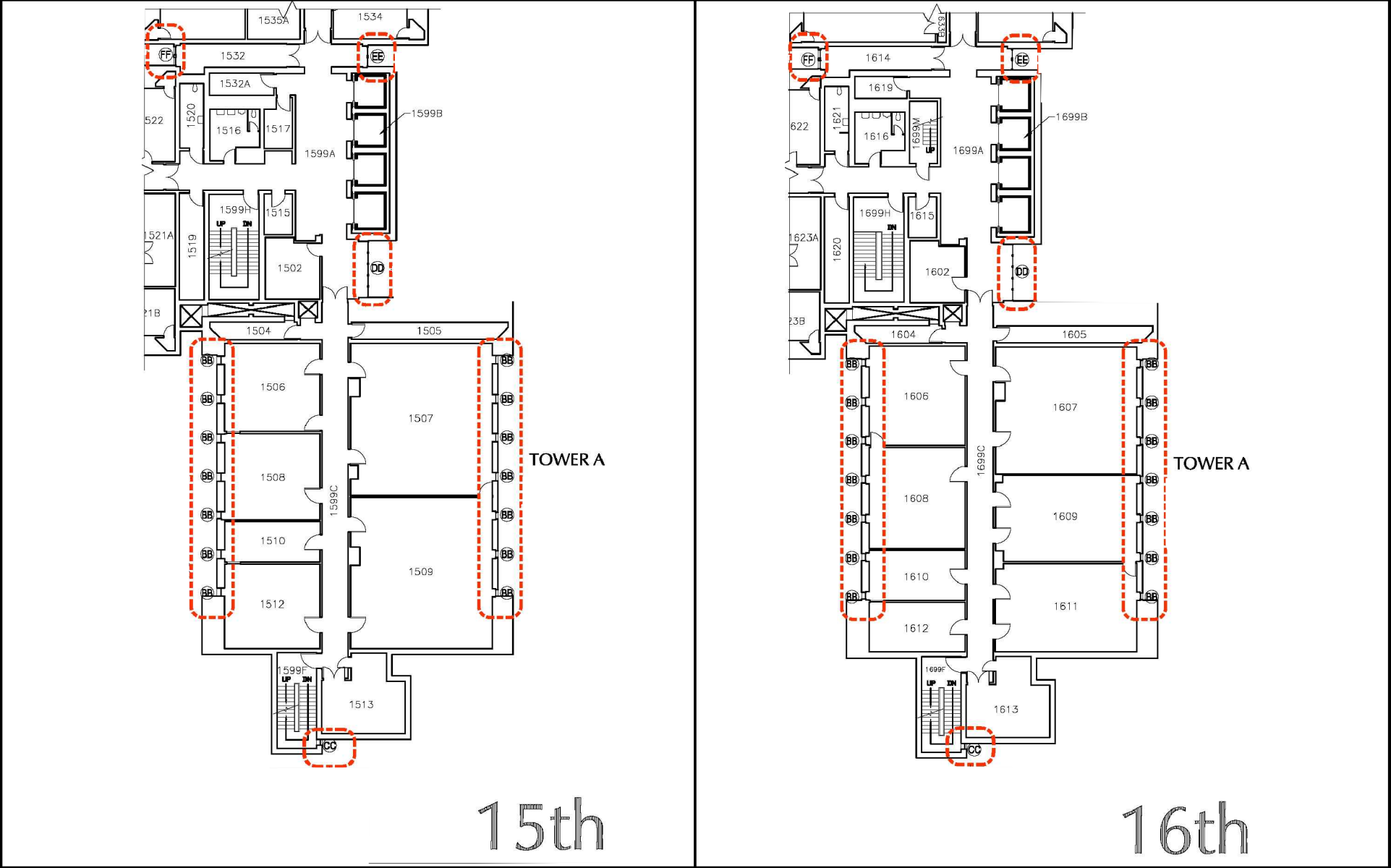


LEGEND

 LOCATION OF WINDOWS/GLAZING SEALANTS INCLUDED IN THE INTERIM MEASURES AND SUBJECT TO LONG TERM MONITORING AND MAINTENANCE

NOTE:

ORIGINAL DESIGN DRAWINGS BY GOLDMAN REINDORF ARCHITECTS INC.



APPENDIX A: ANALYTICAL LABORATORY REPORTS

March 10, 2022

George Franklin
Woodard & Curran - Andover, MA
40 Shattuck Road., Suite 110
Andover, MA 01810

Project Location: Amherst, MA
Client Job Number:
Project Number: 0225695
Laboratory Work Order Number: 22C0095

Enclosed are results of analyses for samples as received by the laboratory on February 28, 2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Meghan E. Kelley
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332Woodard & Curran - Andover, MA
40 Shattuck Road., Suite 110
Andover, MA 01810
ATTN: George Franklin

REPORT DATE: 3/10/2022

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 0225695

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 22C0095

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

PROJECT LOCATION: Amherst, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
LGRC-IAS-199Y-001	22C0095-01	Air		TO-10A/EPA 680 Modified	
LGRC-IAS-299T-002	22C0095-02	Air		TO-10A/EPA 680 Modified	
LGRC-IAS-399A-003	22C0095-03	Air		TO-10A/EPA 680 Modified	

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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.

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

V-06

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

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

B302596-BS1, B302596-BSD1, S069013-CCV2

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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

22C0095-01[LGRC-IAS-199Y-001], 22C0095-02[LGRC-IAS-299T-002], 22C0095-03[LGRC-IAS-399A-003], B302596-BLK1

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

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



Lisa A. Worthington
Technical Representative

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

ANALYTICAL RESULTS

Project Location: Amherst, MA

Date Received: 2/28/2022

Field Sample #: LGRC-IAS-199Y-001
Sample ID: 22C0095-01

Sample Matrix: Air

Sampled: 2/28/2022 16:35

Sample Description/Location:

Sub Description/Location:

Flow Controller ID:

Sample Type:

Air Volume L: 1288

Work Order: 22C0095
TO-10A/EPA 680 Modified

Analyte	Total µg		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Monochlorobiphenyls	ND	0.0010	V-20	ND	0.00078	1	3/9/22 11:44	IMR	
Dichlorobiphenyls	ND	0.0010		ND	0.00078	1	3/9/22 11:44	IMR	
Trichlorobiphenyls	ND	0.0020		ND	0.0016	1	3/9/22 11:44	IMR	
Tetrachlorobiphenyls	ND	0.0020		ND	0.0016	1	3/9/22 11:44	IMR	
Pentachlorobiphenyls	0.0032	0.0020		0.0025	0.0016	1	3/9/22 11:44	IMR	
Hexachlorobiphenyls	0.0039	0.0020		0.0031	0.0016	1	3/9/22 11:44	IMR	
Heptachlorobiphenyls	ND	0.0030		ND	0.0023	1	3/9/22 11:44	IMR	
Octachlorobiphenyls	ND	0.0030		ND	0.0023	1	3/9/22 11:44	IMR	
Nonachlorobiphenyls	ND	0.0050		ND	0.0039	1	3/9/22 11:44	IMR	
Decachlorobiphenyl	ND	0.0050		ND	0.0039	1	3/9/22 11:44	IMR	
Total Polychlorinated biphenyls	0.0072			0.0056		1	3/9/22 11:44	IMR	

Surrogates	% Recovery	% REC Limits	
Tetrachloro-m-xylene	80.6	50-125	3/9/22 11:44

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

ANALYTICAL RESULTS

Project Location: Amherst, MA

Date Received: 2/28/2022

Field Sample #: LGRC-IAS-299T-002
Sample ID: 22C0095-02

Sample Matrix: Air

Sampled: 2/28/2022 16:45

Sample Description/Location:

Sub Description/Location:

Work Order: 22C0095

Flow Controller ID:

Sample Type:

Air Volume L: 1215

TO-10A/EPA 680 Modified

Analyte	Total µg		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Monochlorobiphenyls	ND	0.0010	V-20	ND	0.00082	1	3/9/22 12:59	IMR	
Dichlorobiphenyls	ND	0.0010		ND	0.00082	1	3/9/22 12:59	IMR	
Trichlorobiphenyls	ND	0.0020		ND	0.0016	1	3/9/22 12:59	IMR	
Tetrachlorobiphenyls	0.0081	0.0020		0.0067	0.0016	1	3/9/22 12:59	IMR	
Pentachlorobiphenyls	0.012	0.0020		0.0098	0.0016	1	3/9/22 12:59	IMR	
Hexachlorobiphenyls	0.0093	0.0020		0.0077	0.0016	1	3/9/22 12:59	IMR	
Heptachlorobiphenyls	ND	0.0030		ND	0.0025	1	3/9/22 12:59	IMR	
Octachlorobiphenyls	ND	0.0030		ND	0.0025	1	3/9/22 12:59	IMR	
Nonachlorobiphenyls	ND	0.0050		ND	0.0041	1	3/9/22 12:59	IMR	
Decachlorobiphenyl	ND	0.0050		ND	0.0041	1	3/9/22 12:59	IMR	
Total Polychlorinated biphenyls	0.029			0.024		1	3/9/22 12:59	IMR	

Surrogates	% Recovery	% REC Limits	
Tetrachloro-m-xylene	79.4	50-125	3/9/22 12:59

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

ANALYTICAL RESULTS

Project Location: Amherst, MA

Date Received: 2/28/2022

Field Sample #: LGRC-IAS-399A-003

Sample ID: 22C0095-03

Sample Matrix: Air

Sampled: 2/28/2022 17:00

Sample Description/Location:

Sub Description/Location:

Work Order: 22C0095

Flow Controller ID:

Sample Type:

Air Volume L: 1235

TO-10A/EPA 680 Modified

Analyte	Total µg		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Monochlorobiphenyls	ND	0.0010	V-20	ND	0.00081	1	3/9/22 13:37	IMR	
Dichlorobiphenyls	ND	0.0010		ND	0.00081	1	3/9/22 13:37	IMR	
Trichlorobiphenyls	ND	0.0020		ND	0.0016	1	3/9/22 13:37	IMR	
Tetrachlorobiphenyls	0.015	0.0020		0.012	0.0016	1	3/9/22 13:37	IMR	
Pentachlorobiphenyls	0.025	0.0020		0.020	0.0016	1	3/9/22 13:37	IMR	
Hexachlorobiphenyls	0.012	0.0020		0.0095	0.0016	1	3/9/22 13:37	IMR	
Heptachlorobiphenyls	ND	0.0030		ND	0.0024	1	3/9/22 13:37	IMR	
Octachlorobiphenyls	ND	0.0030		ND	0.0024	1	3/9/22 13:37	IMR	
Nonachlorobiphenyls	ND	0.0050		ND	0.004	1	3/9/22 13:37	IMR	
Decachlorobiphenyl	ND	0.0050		ND	0.004	1	3/9/22 13:37	IMR	
Total Polychlorinated biphenyls	0.052			0.042		1	3/9/22 13:37	IMR	

Surrogates	% Recovery		% REC Limits		
Tetrachloro-m-xylene	75.0		50-125		3/9/22 13:37

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332**Sample Extraction Data****Prep Method: SW-846 3540C Analytical Method: TO-10A/EPA 680 Modified**

Lab Number [Field ID]	Batch	Initial [Cartridge	Final [mL]	Date
22C0095-01 [LGRC-IAS-199Y-001]	B302596	1.00	1.00	03/07/22
22C0095-02 [LGRC-IAS-299T-002]	B302596	1.00	1.00	03/07/22
22C0095-03 [LGRC-IAS-399A-003]	B302596	1.00	1.00	03/07/22

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

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

Analyte	Total µg		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	Total µg	Result	%REC	Limits	RPD	Limit	
Batch B302596 - SW-846 3540C											
Blank (B302596-BLK1)					Prepared: 03/07/22 Analyzed: 03/09/22						
Monochlorobiphenyls	ND	0.0010									V-20
Dichlorobiphenyls	ND	0.0010									
Trichlorobiphenyls	ND	0.0020									
Tetrachlorobiphenyls	ND	0.0020									
Pentachlorobiphenyls	ND	0.0020									
Hexachlorobiphenyls	ND	0.0020									
Heptachlorobiphenyls	ND	0.0030									
Octachlorobiphenyls	ND	0.0030									
Nonachlorobiphenyls	ND	0.0050									
Decachlorobiphenyl	ND	0.0050									
Total Polychlorinated biphenyls	0.0										
Surrogate: Tetrachloro-m-xylene	0.133				0.200		66.7	50-125			
LCS (B302596-BS1)					Prepared: 03/07/22 Analyzed: 03/09/22						
Monochlorobiphenyls	0.16	0.0010			0.200		81.9	40-140			V-06
Dichlorobiphenyls	0.17	0.0010			0.200		83.5	40-140			
Trichlorobiphenyls	0.17	0.0020			0.200		87.0	40-140			
Tetrachlorobiphenyls	0.36	0.0020			0.400		89.7	40-140			
Pentachlorobiphenyls	0.36	0.0020			0.400		90.6	40-140			
Hexachlorobiphenyls	0.39	0.0020			0.400		97.4	40-140			
Heptachlorobiphenyls	0.58	0.0030			0.600		96.5	40-140			
Octachlorobiphenyls	0.61	0.0030			0.600		102	40-140			
Nonachlorobiphenyls	1.1	0.0050			1.00		114	40-140			
Decachlorobiphenyl	1.0	0.0050			1.00		100	40-140			
Surrogate: Tetrachloro-m-xylene	0.170				0.200		84.9	50-125			
LCS Dup (B302596-BSD1)					Prepared: 03/07/22 Analyzed: 03/09/22						
Monochlorobiphenyls	0.16	0.0010			0.200		81.7	40-140	0.221	50	V-06
Dichlorobiphenyls	0.16	0.0010			0.200		80.4	40-140	3.76	50	
Trichlorobiphenyls	0.17	0.0020			0.200		82.7	40-140	5.00	50	
Tetrachlorobiphenyls	0.34	0.0020			0.400		85.4	40-140	4.88	50	
Pentachlorobiphenyls	0.34	0.0020			0.400		85.0	40-140	6.37	50	
Hexachlorobiphenyls	0.39	0.0020			0.400		97.1	40-140	0.334	50	
Heptachlorobiphenyls	0.57	0.0030			0.600		95.2	40-140	1.33	50	
Octachlorobiphenyls	0.60	0.0030			0.600		101	40-140	0.862	50	
Nonachlorobiphenyls	1.1	0.0050			1.00		111	40-140	2.57	50	
Decachlorobiphenyl	0.95	0.0050			1.00		95.2	40-140	4.90	50	
Surrogate: Tetrachloro-m-xylene	0.173				0.200		86.6	50-125			

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

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 680 Modified

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (S067893-ICV1)			Lab File ID: F22S032013.D			Analyzed: 02/01/22 22:02			
Phenanthrene-d10	377080	20.801	377080	20.801	100	70 - 130	0.0000	+/-0.50	
Chrysene-d12	206141	28.746	206141	28.746	100	70 - 130	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
TO-10A/EPA 680 Modified

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S069013-CCV1)			Lab File ID: F22S068003.D			Analyzed: 03/09/22 09:14			
Phenanthrene-d10	465703	20.794	465703	20.794	100	70 - 130	0.0000	+/-0.50	
Chrysene-d12	235608	28.738	235608	28.738	100	70 - 130	0.0000	+/-0.50	
LCS (B302596-BS1)			Lab File ID: F22S068004.D			Analyzed: 03/09/22 09:52			
Phenanthrene-d10	513698	20.794	465703	20.794	110	70 - 130	0.0000	+/-0.50	
Chrysene-d12	269292	28.746	235608	28.738	114	70 - 130	0.0080	+/-0.50	
LCS Dup (B302596-BSD1)			Lab File ID: F22S068005.D			Analyzed: 03/09/22 10:29			
Phenanthrene-d10	515402	20.794	465703	20.794	111	70 - 130	0.0000	+/-0.50	
Chrysene-d12	254113	28.738	235608	28.738	108	70 - 130	0.0000	+/-0.50	
LGRC-IAS-199Y-001 (22C0095-01)			Lab File ID: F22S068007.D			Analyzed: 03/09/22 11:44			
Phenanthrene-d10	556431	20.794	465703	20.794	119	70 - 130	0.0000	+/-0.50	
Chrysene-d12	285713	28.738	235608	28.738	121	70 - 130	0.0000	+/-0.50	
Blank (B302596-BLK1)			Lab File ID: F22S068008.D			Analyzed: 03/09/22 12:22			
Phenanthrene-d10	542419	20.794	465703	20.794	116	70 - 130	0.0000	+/-0.50	
Chrysene-d12	275127	28.738	235608	28.738	117	70 - 130	0.0000	+/-0.50	
LGRC-IAS-299T-002 (22C0095-02)			Lab File ID: F22S068009.D			Analyzed: 03/09/22 12:59			
Phenanthrene-d10	532583	20.794	465703	20.794	114	70 - 130	0.0000	+/-0.50	
Chrysene-d12	268947	28.738	235608	28.738	114	70 - 130	0.0000	+/-0.50	
LGRC-IAS-399A-003 (22C0095-03)			Lab File ID: F22S068010.D			Analyzed: 03/09/22 13:37			
Phenanthrene-d10	546068	20.794	465703	20.794	117	70 - 130	0.0000	+/-0.50	
Chrysene-d12	279514	28.738	235608	28.738	119	70 - 130	0.0000	+/-0.50	
Calibration Check (S069013-CCV2)			Lab File ID: F22S068012.D			Analyzed: 03/09/22 14:56			
Phenanthrene-d10	523552	20.801	523552	20.801	100	70 - 130	0.0000	+/-0.50	*
Chrysene-d12	259696	28.746	259696	28.746	100	70 - 130	0.0000	+/-0.50	

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

CONTINUING CALIBRATION CHECK
TO-10A/EPA 680 Modified
S069013-CCV1

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Monochlorobiphenyls	A	100	107	0.5482959	0.5893912		7.5	20
Dichlorobiphenyls	A	100	93.2	0.6834238	0.636994		-6.8	20
Trichlorobiphenyls	A	100	94.9	0.5008325	0.4751687		-5.1	20
Tetrachlorobiphenyls	A	200	204	0.3017248	0.3076263		2.0	20
Pentachlorobiphenyls	A	200	193	0.2527718	0.2438182		-3.5	20
Hexachlorobiphenyls	A	200	224	0.41969	0.4690259		11.8	20
Heptachlorobiphenyls	A	300	331	0.3941325	0.4346114		10.3	20
Octachlorobiphenyls	A	300	331	0.3052513	0.3364257		10.2	20
Nonachlorobiphenyls	A	500	549	0.2606746	0.2864238		9.9	20
Decachlorobiphenyl	A	500	528	0.2156198	0.2278042		5.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

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

CONTINUING CALIBRATION CHECK
TO-10A/EPA 680 Modified
S069013-CCV2

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Monochlorobiphenyls	A	100	125	0.5482959	0.6879689		25.5	20 *
Dichlorobiphenyls	A	100	95.4	0.6834238	0.6521559		-4.6	20
Trichlorobiphenyls	A	100	94.3	0.5008325	0.4724578		-5.7	20
Tetrachlorobiphenyls	A	200	199	0.3017248	0.3004059		-0.4	20
Pentachlorobiphenyls	A	200	192	0.2527718	0.2424365		-4.1	20
Hexachlorobiphenyls	A	200	226	0.41969	0.4734261		12.8	20
Heptachlorobiphenyls	A	300	330	0.3941325	0.4341374		10.2	20
Octachlorobiphenyls	A	300	336	0.3052513	0.3416254		11.9	20
Nonachlorobiphenyls	A	500	559	0.2606746	0.2916824		11.9	20
Decachlorobiphenyl	A	500	540	0.2156198	0.2327433		7.9	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

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

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2024
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2023
RI	Rhode Island Department of Health	LAO00373	12/30/2022
NC	North Carolina Div. of Water Quality	652	12/31/2022
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2022
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2022

I Have Not Confirmed Sample Container
Numbers With Lab Staff Before
Relinquishing Over
Samples _____



con-test®
ANALYTICAL LABORATORY

Doc# 278 Rev 6 2017

**Air Media Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False
Statement will be brought to the attention of the Client - State True or False**

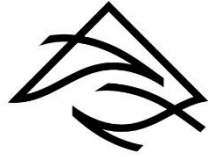
Client Unocal/CLS Curran

Received By RLT Date 2/28/22 Time 1835
How were the samples In Cooler T On Ice T No Ice _____
received? In Box _____ Ambient _____ Melted Ice _____
Were samples within Temperature By Gun # 3 Actual Temp - 2
Compliance? 2-6°C T By Blank # _____ Actual Temp - _____
Was Custody Seal Intact? NA Were Samples Tampered with? NA
Was COC Relinquished? T Does Chain Agree With Samples? T
Are there any loose caps/valves on any samples? F
Is COC in ink/ Legible? T
Did COC Include all Client T Analysis T Sampler Name T
Pertinent Information? Project T ID's T Collection Dates/Times T
Are Sample Labels filled out and legible? T
Are there Rushes? F Who was notified? _____
Samples are received within holding time? T
Proper Media Used? T Individually Certified Cans? NA
Are there Trip Blanks? F Is there enough Volume? T

Containers:	#	Size	Regulator	Duration	Accessories:		
Summa Cans					Nut/Ferrule		IC Train
Tedlar Bags					Tubing		
TO-17 Tubes					T-Connector		Shipping Charges
Radiello					Syringe		
Pufs/TO-11s	<u>4</u>				Tedlar		

Can #'s					Reg #'s				
Unused Media					Pufs/TO-17's				
<u>022222-01</u>					<u>022222-04</u>				
					<u>-05</u>				
					<u>-03</u>				

Comments:



**Woodard
& Curran**

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