FINAL COMPLETION REPORT



LEDERLE GRC LOWRISE - ROOM A106 RENOVATIONS

PREPARED FOR:

UNIVERSITY OF MASSACHUSETTS ENVIRONMENTAL HEALTH & SAFETY 118 DRAPER HALL 40 CAMPUS CENTER WAY AMHERST, MASSACHUSETTS 01003

SEPTEMBER 23, 2019

PREPARED BY:

ATC GROUP SERVICES LLC 73 WILLIAM FRANKS DRIVE WEST SPRINGFIELD, MA 01089

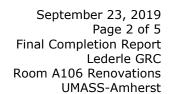




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1.0 INTRODUCTION

ATC Group Services LLC (ATC) has prepared this Final Completion Report for polychlorinated biphenyl (PCB) removal and disposal activities conducted at the Lederle Graduate Research Center (LGRC), Lowrise Building (Room A106) located at the University of Massachusetts campus in Amherst. The work included removal and disposal of ten (10) perimeter window units located in Room A106 which contained PCB glazing sealants.

The remediation work was performed as part of the Consent Agreement/Final Order (CAFO) between the University of Massachusetts and the U.S. Environmental Protection Agency (EPA Region 1) dated June 20, 2012.

Thirty (30) day notification to the EPA Region 1 office on the remediation work was provided by UMASS on August 16, 2018. Refer to **Appendix A.**

The work was also performed to support to the renovation work completed at the interior of the space.

2.0 CHARACTERIZATION SAMPLING

The glazing sealants in the perimeter windows at the LGRC Lowrise Building contains PCBs >50 ppm as outlined by the Consent Agreement/Final Order between UMASS and the USEPA dated June 20, 2012. Therefore, no additional sampling of the glazing sealants was performed as part of the remediation work associated with removal of the window units at Room A106.

A survey for asbestos containing material (ACM) was performed by ATC for the area being renovated. Results of that survey indicated the glazing sealants on the window units to contain asbestos.

3.0 ABATEMENT ACTIVITIES

This section provides a summary of PCB and asbestos abatement site activities.

3.1 Window Glazing Abatement

PCB and/or asbestos-containing window glazing compound was removed from the ten (10) window units at Room A106 on October 4, 2018. The following work activities were adhered to for removal and disposal of the window units:

- The work area was demarcated with caution tape and asbestos signs so only trained and authorized personnel were allowed in the area.
- The supervisor and all workers performing the work held current training certificates for 40 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) and Massachusetts asbestos licenses.



- Containment around each window unit was established in accordance with Massachusetts Department of Labor Standards (DLS) 453 CMR 6.14 and Massachusetts Department of Environmental Protection (DEP) 310 CMR 7.15 Asbestos Regulations.
- Negative pressure was also established inside the containment.
- A three (3) stage decontamination chamber was constructed which consisted of an equipment room, shower and clean room.
- The containment remained up during all phases of the remediation project and was not torn down until clearance criteria has been met.
- Wetting of asbestos and PCBs was done with low pressure spray equipment, using water amended with a wetting agent/surfactant.
- The window unit was then removed "intact" (i.e. sash and framework) and sealed with two (2) layers of six mil polyethylene sheeting and duct tape. All packaged materials were properly labeled as asbestos and PCB waste.
- All material was then removed from the work area and transported to the onsite container for disposal as asbestos and PCB waste.
- Each window opening and the containment area was then properly cleaned utilizing wet methods and HEPA vacuuming.
- All tools and equipment were removed from the work area and decontaminated in the decontamination chamber. Cloth, mops and other cleaning aids were disposed of as asbestos and PCB containing waste.
- All containers were properly labeled and marked in accordance with 40 CFR 761.40 and Massachusetts Department of Environmental Protection MADEP CMR 7.15 Regulations.
- A final visual inspection was performed by ATC and the Contractor's Site Supervisor to ensure no visible debris was present within the containment.
- ATC also performed air monitoring for asbestos outside the work areas during active removal of the window units and final air clearance testing prior to tear down the containments. All air samples were analyzed by Phase Contrast Microscopy (PCM) in accordance with the NIOSH 7400 Method.
- All window units and associated components were transported under manifest and disposed of as PCB hazardous waste at a TSCA approved landfill.

4.0 ASBESTOS AIR SAMPLING/FINAL VISUAL INSPECTION

This section summarizes the post remediation testing performed to ensure all materials were properly removed and the abatement action was complete:

4.1 Asbestos Air Sampling/Final Visual

Upon completion of the work, a final visual inspection was performed within the containment to ensure all materials were abated and the area was decontaminated to a level of no visible debris in accordance with Massachusetts DLS 453 CMR 6.00 Regulations.



Ambient air samples were collected during the abatement to ensure no elevated fiber levels existed outside the containment area. Final air clearance testing was also performed after the containment passed a visual inspection by ATC.

All air samples collected were analyzed for asbestos by Phase Contrast Microscopy (PCM). Acceptable standards for the work shall be less than 0.01 fibers per cubic centimeter or air (<0.01 f/cc) for each sample.

Results indicated all air samples collected to be below 0.01 f/cc of air which is the State of Massachusetts and federal EPA standard for re-occupancy following asbestos abatement activities.

Refer to **Appendix B** for a copy of the Asbestos PCM Air Sample Analysis Report and Final Visual Inspection Forms.

5.0 WASTE DISPOSAL

Asbestos and PCB containing waste generated at the Site included window units (sash, framework, etc.) and associated materials. A total of 1,000 kilograms of asbestos and PCB containing waste was transported from the site on October 23, 2018 on a Uniform Hazardous Waste Manifest to Cycle Chem, Inc. located in Elizabeth, New Jersey (EPA ID No. ND002200046). The associated shipping and disposal document is included under **Appendix C.**



Final Completion Report Lederle GRC Lowrise Room A106 Renovations UMASS-Amherst

APPENDIX A

PCB REMEDIATION ACTIVITY 30 DAY NOTIFICATION

40 Campus Center Way, 117 Draper Hall Amherst, MA 01003-9244 www.ehs.umass.edu/

August 16, 2018

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 Activity 30 Day Notification

Lederle Graduate Research Center – Lowrise, Room A106 University of Massachusetts, Amherst, Massachusetts

Dear Ms. Tisa:

This letter has been prepared to provide notification to the United States Environmental Protection Agency (EPA) regarding the implementation of polychlorinated biphenyl (PCB) remediation activities on the first floor at the University of Massachusetts (UMass) Lederle Graduate Research Center (LGRC) Low-rise, located at 740 North Pleasant Street on the UMass campus in Amherst, Massachusetts. These activities are being conducted in response to the removal of PCB containing window glazing sealants at the LGRC- Lowrise and in accordance with the Consent Agreement/Final Order dated June 20, 2012. The activities included in this notification are currently planned to begin in September 2018.

Voice: 413.545.2682

Fax: 413.545.2600

The PCB remediation activities are integrated into planned renovation activities to the first floor computer room A106. The PCB remediation activities will include the removal and off-site disposal of ≥ 50 ppm PCB containing glazing sealants and window frames and components associated with 10 windows (240 LF of glazing sealant). The windows will be removed as a single unit, wrapped and bagged, and brought into a full asbestos containment area where the window will be broken down to fit into Gaylord boxes for disposal?

- Containment and controls consisting of polysheeting, wet methods, and PPE will be established in accordance with applicable asbestos regulations;
- Window removal will be conducted by the Remediation Subcontractor in accordance with the project specifications. All workers will have 40 Hour Hazardous Waste Operations and Emergency Response Training (HAZWOPER) and hold a current 8 hour annual refresher certificate;
- All waste materials (glazing sealants, window frames, and components (including glass), PPE, disposable tools and equipment, etc.) are to be removed for off-site disposal in accordance with 40 CFR 761.62 to an out of state hazardous waste landfill as ≥ 50 ppm PCB and asbestos waste;
- Inspections and verification associated with PCB related activities will be conducted by the Owners' Consultant (Cardino ATC).

The contractor's PCB work plan is attached for your reference.

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

Sincerely,

Jeffrey Hescock

Executive Director of Environmental Health and Safety and Emergency Management



APPENDIX B

Final Completion Report Lederle GRC Lowrise Room A106 Renovations **UMASS-Amherst**

APPENDIX B

ASBESTOS AIR SAMPLE (PCM) RESULTS/ & FINAL VISUAL INSPECTIONS



CLIENT NAME	JOB SITE	SAMPLED BY	DATE SAMPLED	ATC JOB#
Goldman Reindorf Architects	University of Massachusetts Amherst; Room A106	Aric Pont	30-Jul-18	183DW18080

ANALYTICAL SERVICE LICENSE #: AAOOOOO5
AAR ANALYSIS: Aric Pont

Sample #	Sample Location	Sample Type	Volume	Fiber/field	Fibers/
- Campion	Field Blank	Field Blank		0/100	
) 	Field Blank	Field Blank		0/100	
	Lobby at Southwest Doors	Area Background and During Prep Work	2184	10/100	0.002
	Hall at A106	Area Background and During Prep Work	2184	10/100	0.002
	Lobby at Southwest Doors Hall at A106 A147 at Door Critical Barrier	Area Background and During Prep Work Area Background and During Prep Work Area Background and During Prep Work	2184	8/100	0.00
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PHASE CONTRAST MICROSCOPY AIR SAMPLING CHAIN OF CUSTODY

Laboratory ID #'s: AA000005 (MA) - CT.PH-0255 (CT) - CE947001 (VT)

ATC Group Services, LLC. 73 William Franks Drive, West Springfield, MA 01089 (413) 781-0070 (Phone) - (413) 781 3734 (Fax)

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Relinquished By and Date: Rotometer #: 2008 Analyst Signature: Received By and Date: Project Manager: Deletek w Ssura Project Monitor: ARIC POST 7/30/18 7/30/18 Collection Date: Analysis Date: Project Name: UNASS ANIFECST - LEGE (20) PISE PA A JOG Client: GOLDMAN RELUDORF ARCHITECTS, INC Project #: 1830 W 18080 Location: Count Alok

Sample #	Sample Location	Sample Type	īŢ	Time	Flow	Flow Rate	Total Time	Volume	Adjusted Count	Result
		(1-10)	Start	End	Start	End	(Mins)	(T)	(Fbs/Fds)	(t/cc)
APOT3018 -01	Field Blank								001/0	
70- 1	Field Blank								00110	
-03	5000 ors @ HADON 50-	1,3	0730	1430	5,2	5.2	024	4812	10/100	0.005
-a	HAII @ Alob	1,3	0135	1438	5.2	2.5	420	2184	10/100	200.0
50-1	AI47 @ DOCCE CENT/EMERICA	611	OHLO	Ohhl	5.2	2:5	420	4812	2 /100	0.005
1-061	Reference Slide								100/29	
APOT3018-05	Duplicate Slide								8/160	200.0

Sample Tyne:	1) Area Background	2) Pre-Abatement	3) During Prep	4) During Removal	5) During Final Clean
Sampre 13 be:	6) During Glovebag Removal	7) Final Air Clearance	8) Exposure Assesment	9) Associated Work	10) Other

Notes:



CLIENT NAME	JOB SITE	SAMPLED BY	DATE SAMPLED	ATC JOB#
Goldman Reindorf Architects	University of Massachusetts Amherst; Room A106	Aric Pont	31-Jul-18	183DW18080

ANALYTICAL SERVICE LICENSE #: AAOOOOO5

AAR ANALYSIS: Aric Pont

Sample #	Sample Location	Sample Type	Volume	Fiber/field	Fibers/c
)	Field Blank	Field Blank		0/100	
00	Field Blank	Field Blank		0/100	
1	Lobby at Rear Doors Hall Adjacent to A106/Decon Room 147 Critical Barrier	Area Background and During Removal Area Background and During Removal Area Background and During Removal	1872	8/100	0.002
2	Hall Adjacent to A106/Decon	Area Background and During Removal	1872	5/100	0.001
3	Room 147 Critical Barrier	Area Background and During Removal	1872	6.5/100	0.002
					
					
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PHASE CONTRAST MICROSCOPY AIR SAMPLING CHAIN OF CUSTODY

Laboratory ID #'s: AA000005 (MA) - CT.PH-0255 (CT) - CE947001 (VT)

ATC Group Services, LLC. 73 William Franks Drive, West Springfield, MA 01089 (413) 781-0070 (Phone) - (413) 781 3734 (Fax)

SSMAN Project Monitor: Ace Per Project Manager: DECCLUK Project Name: LEACL LOW RUSE LOWAYS ALMEREST GOLDMAN REINDARF MENTIRENS

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Location: LGCC LANGUSE - 1406 W

Project #: 1830w1808

Client:

2002 Relinquished By and Date: Received By and Date: Analyst Signature: Rotometer #:

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			182-7		A0072118-05	

oval 5) During Final Clean	Vork 10) Other	
4) During Remo	9) Associated Work	
3) During Prep	8) Exposure Assesment	
2) Pre-Abatement	7) Final Air Clearance	
1) Area Background	6) During Glovebag Removal	
Sample Type:	and to address	

Notes:



CLIENT NAME	JOB SITE	SAMPLED BY	DATE SAMPLED	ATC JOB#
Goldman Reindorf Architects	University of Massachusetts Amherst; Room A106	Aric Pont	1-Aug-18	183DW18080

ANALYTICAL SERVICE LICENSE #: AAOOOOO5
AAR ANALYSIS: Aric Pont

Sample #	Sample Location	Sample Type	Volume	Fiber/field	Fibers
	Field Blank	Field Blank		0/100	
	Field Blank	Field Blank		0/100 10/100 10/100	
	Lobby at Rear Doors	Area Background and During Removal	2184	10/100	0.00
	Lobby at Rear Doors Hall at A106	Area Background and During Removal Area Background and During Removal Area Background and During Removal	2184	10/100	0.00
	A147 at Critical Barrier	Area Background and During Removal	2184	8/100	0.00
	A147 at Critical Barrier	Area Background and During Removal	2104	0/100	0.00
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Location:

PHASE CONTRAST MICROSCOPY AIR SAMPLING CHAIN OF CUSTODY

Laboratory ID #'s: AA000005 (MA) - CT.PH-0255 (CT) - CE947001 (VT)

ATC Group Services, LLC. 73 William Franks Drive, West Springfield, MA 01089 (413) 781-0970 (Phone) - (413) 781 3734 (Fax) 8002 Relinquished By and Date: Received By and Date: Analyst Signature: Rotometer #:___ DEPENDENT WISSMAN Project Manager: Project Monitor: Collection Date: Analysis Date: Project Name: UMASS AUHERST, LIBRE (COU PISE, A106 Client: GOLDMAN RELADORP ARCHTRYS Project #: 183 Dto 1808 ENVIRONMENTAL • GEOTECHNICAL BUILDING SCIENCES • MATERIALS TESTING

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Sample #	Sample Location	Sample Type	Ţ	Time	Flow	Flow Rate	Total Time	Volume	Adjusted Count	Result
		(1-10)	Start	End	Start	End	(Mins)	<u>3</u>	(Fbs/Fds)	(a)(L)(c)
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100	-04 HAILMY B MC.	h'ı	5410	Ehhi	2:5	25	420	4812	10/100	0-002
1 -05	AUT AT CET BORRERA	h',	940	7641	5.5	2.2	420	1812	8/100	0.002
	Reference Slide									
80-811828	Duplicate Slide								10/1/00	
Sample Type:	1) Area Background	2) Pre-Abatement	atement	3) During Prep	g Prep		4) During Removal	oval	5) During Final Clean	.l Clean

nnle Tvne:	1) Area Background	2) Pre-Abatement	3) During Prep	4) During Removal
Three Jees	b) During Glovebag Removal	7) Final Air Clearance	8) Exposure Assesment	9) Associated Work

10) Other

Notes:



CLIENT NAME	JOB SITE	SAMPLED BY	DATE SAMPLED	ATC JOB#
Goldman Reindorf Architects	University of Massachusetts Amherst; Room A106	Aric Pont	2-Aug-18	183DW18080

ANALYTICAL SERVICE LICENSE #: AAOOOOO5

AAR ANALYSIS: Aric Pont

Sample #	Sample Location	Sample Type	Volume	Fiber/field	Fibers/e
)	Field Blank	Field Blank		0/100	
0	Field Blank	Field Blank		0/100	
1	Lobby Rear	Area Background and During Removal	1716	8/100	0.002
2	Hall at A106	Area Background and During Removal Area Background and During Removal	1716	6/100	0.002
3	A147 at Critical Barrier	Area Background and During Removal	1716	7.5/100	0.002
4	A106 South	Final Air Clearance	1314	3/100	<0.00
5	A106 East	Final Air Clearance	1314	3/100	<0.00
6	A106 East A106 North	Final Air Clearance	1314	2/100	<0.00
7	A106 West	Final Air Clearance	1314	1/100	<0.00
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10) Other



PHASE CONTRAST MICROSCOPY AIR SAMPLING CHAIN OF CUSTODY

Laboratory ID #'s: AA000005 (MA) - CT.PH-0255 (CT) - CE947001 (VT)

ATC Group Services, LLC. 73 William Franks Drive, West Springfield, MA 01089 (413) 781-0070 (Phone) - (413) 781 3734 (Fax)

Project Name: LGRC	Project Name: LGRC 10008SC W#AIC DNASS JUNES Project Manager: DERCK WISHAM	Project Ma	anager: Dec	Perck with	SMAN		Analyst Signature:	me:		
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10-	Alob EAST	7	1330	1500	4. PI	14.6	90	1314	3/100	200.07
9	MOG NOGSIA	7	1331	1501	14.61	19.6	96	1314	2/18	100.00
02_/	MICL WEST	7	1551	18/		9,41	90	1314	1/100	10.007
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Sample Type:	 Area Background During Glovebag Removal 	2) Pre-Abatement 7) Final Air Clears	 Pre-Abatement Final Air Clearance 	 During Prep Exposure As 	3) During Prep8) Exposure Assesment	ıt	4) During Removal 9) Associated Work	oval Vork	5) During Final Clean 10) Other	Clean

Notes:



CLIENT NAME	JOB SITE	SAMPLED BY	DATE SAMPLED	ATC JOB#
Goldman Reindorf Architects	University of Massachusetts Amherst: Room A106	Aric Pont	15-Aug-18	183DW18080

ANALYTICAL SERVICE LICENSE #: AAOOOOO5

AAR ANALYSIS: Aric Pont

Sample #	Sample Location	Sample Type	Volume	Fiber/field	Fibers/
)	Field Blank	Field Blank		0/100	
0	Field Blank	Field Blank		0/100	
1	Field Blank	Area Background and During Bran Work	1701	11/100	0.003
1	Hall at A106	Area Background and During Prep Work Area Background and During Removal Final Air Clearance	972	7/100	0.003
2	Hall at A106	Area Background and During Removal	972	0/400	0.002
3	A106 Door 1	Final Air Clearance	1314	2/100	0.002
3 4	A106 Between Doors	Final Air Clearance	1314	2/100	<0.00
5	A106 Door 2	Final Air Clearance	1314	3/100	<0.00
					
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PHASE CONTRAST MICROSCOPY AIR SAMPLING CHAIN OF CUSTODY

Laboratory ID #'s: AA000005 (MA) - CT.PH-0255 (CT) - CE947001 (VT)

ATC Group Services, LLC. 73 William Franks Drive, West Springfield, MA 01089 (413) 781-0070 (Phone) - (413) 781 3734 (Fax)

700 Result 40.002 000 (bcc) 0.003 0.003 0 9 Adjusted Count 1100 1100 1100 180 (Fbs/Fds) 100 1100 8 51 ೦ 0 N 1 Volume 2008 Relinquished By and Date: 1314 314 \mathbb{C} 021 Received By and Date: Analyst Signature: Total Time (Mins) 210 130 90 9 96 4.6 End 74.6 耳ら 00 Flow Rate 00 Start 19.6 14.6 五百 <u>~</u> 00 *wissman* 1230 End 1440 1630 000 1630 Project Monitor: After Par Project Manager: DEPRUK Collection Date: 8/15/18
Analysis Date: 8/15/18 Time 0461 88 Start 1450 1450 1450 Sample Type (1-10) Project Name: LERC 1 an PISE Mar UM 35 ANHERST BETWEEN DOORS Sample Location Field Blank Field Blank Client: GOLDANA RELACED ACCUMPERS HAIL @ AloC @ Alob Location: LERC LOW RISE PUT A/16C Alob Door 8 A106 A10% HAI Project #: 1830018082 63 3 Apo81518A-01 9 105 9 Sample # 190-

* WORK FASTER THAN EXPECTED -SAMPLE INVALID INVESTIGATE ONE TO CON LOLL ME. Notes:

Page 1 of 4

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5) During Final Clean

10) Other

9) Associated Work

8) Exposure Assesment

7) Final Air Clearance

2) Pre-Abatement

Area Background
 During Glovebag Removal

Sample Type:

Reference Slide Duplicate Slide

MONSH-OL

3) During Prep

4) During Removal



CLIENT NAME	JOB SITE	SAMPLED BY	DATE SAMPLED	ATC JOB#
Goldman Reindorf Architects	University of Massachusetts Amherst; Room A106	Aric Pont	10-Oct-18	183DW18080

ANALYTICAL SERVICE LICENSE #: AAOOOOO5
AAR ANALYSIS: Aric Pont

Sample #	Sample Location	Sample Type	Volume	Fiber/field	Fibers/
)	Field Blank	Field Blank		0/100	
0	Field Blank	Field Blank		0/100	
1	A106 at North Containment Walls	Area Background, During Prep Work and During Removal Final Air Clearance	1494	10/100	0.003
2	A106 at North Containment Walls A106 NPEI Rear	Final Air Clearance	1314	2/100	<0.00
2	A106 NPEI Front	Final Air Clearance	1314	3/100	<0.00
3	A106 NPEI Front	Final Air Clearance Area Background and During Removal	1288	9/100	0.00
4	A106 at Decon	Area Background and During Removal	1288	9/100	0.00
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PHASE CONTRAST MICROSCOPY AIR SAMPLING CHAIN OF CUSTODY

Laboratory ID #'s: AA000005 (MA) - CT.PH-0255 (CT) - CE947001 (VT)

ATC Group Services, LLC.
73 William Franks Drive, West Springfield, MA 01089
(413) 781-0070 (Phone) - (413) 781 3734 (Fax)

((

	Comple	
Received By and Date:	Analysis Date: 10/10/18	Location: () WASS ANDERT - LEKE A10C
Relinquished By and Date:	Collection Date: 10/10/18	Client: GOLDINAN REVUNCEP
Rotometer #:	Project Monitor:	Project #: 1830cc18080
Analyst Signature:	Project Manager: \(\int\mathcal{U}\)	Project Name: UNASS AMHERST - LEEC Alob
(*13) /614) - (\$100m2) 0/00-00/ (c1+)		

Sample #	Sample Location	Sample Type	II	Time	Flow	Flow Rate	Total Time	Volume	Adjusted Count	Result
		(1-10)	Start	End	Start	End	(Muns)	9	(Fbs/Fds)	(£/cc)
Applo1813-01	Field Blank						-		0//00	
7 -62	Field Blank								Gliero	
1-03	Alcho N Court, Walls	1,3,4	06 50	1330	83	83	180	1494	10/100	6.003
B	Alob Wei Roak	7	1245	1415	14.6		36	1314	2/100	16.002
-05	-05 Alde NEIFRONS	1	SHEI	SIH	14.6 14.6	14.6	90	1314	3 /100	20.002
1 -06	Alob @ Decon	4,1	1355	1505 80.3 10.3 125	80.3	6.3	125	1288	001/6	0.003
									_	
	8		B							
183-2	Reference Slide								100/82	
90-681010188	Duplicate Slide								3/100	200.07
										2

Sample Type.	 Area Background 	2) Pre-Abatement	3) During Prep	4) During Removal	5) During Final Clean	
odfr odmag	buring Glovebag Removal	7) Final Air Clearance	8) Exposure Assesment	9) Associated Work	10) Other	-
						7
Notes:						Г

Notes:



CLIENT NAME	JOB SITE	SAMPLED BY	DATE SAMPLED	ATC JOB#
Goldman Reindorf Architects	University of Massachusetts Amherst; Room A106	Aric Pont	11-Oct-18	183DW18080

ANALYTICAL SERVICE LICENSE #: AAOOOOO5
AAR ANALYSIS: Aric Pont
DATE OF ANALYSIS: 41 Oct 19

DATE OF ANALYSIS: 11-Oct-1	0				
Sample #	Sample Location	Sample Type	Volume	Fiber/field	Fibers/co
0	Field Blank	Field Blank		0/100	
00	Field Blank	Field Blank		0/100	
01	Hall at 1A106	Area Background and During Removal	927	4/100	0.002
01 02	A106 at Decon	Area Background and During Removal Area Background and During Removal	927	4.5/100	0.002
03	NPEI Rear	Final Air Clearance	1314	2/100	<0.002
04	NPEI Rear NPEI Front	Final Air Clearance	1314	3/100	<0.002
03 04 05	Hall at 1A106	Area Background and During Prep Work	1530	13/100	0.004
06	NPE2 Rear	Final Air Clearance	1314	2/100	<0.002
07	NPE2 Front	Final Air Clearance	1314	4/100	<0.002
07	THE EZ FIORC	Tital 7 iii Oldafarida			
				 	
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BUILDING SCIENCES . MATERIALS TESTING

PHASE CONTRAST MICROSCOPY AIR SAMPLING CHAIN OF CUSTODY

Laboratory ID #'s: AA000005 (MA) - CT.PH-0255 (CT) - CE947001 (VT)

ATC Group Services, LLC. 73 William Franks Drive, West Springfield, MA 01089 (413) 781-0070 (Phone) - (413) 781 3734 (Fax)

((

R Relinquished By and Date: Received By and Date: Analyst Signature: 🤇 Rotometer #: Analysis Date: (Of [1] | 8 Collection Date: [O|11|18 Project Manager: DW Project Monitor:

40.002 60.002 40.005 0,002 400.0 0.007 200,00 200.07 Result (pcc) Adjusted Count 01/0 (Fbs/Fds) 0/100 00 100 45/100 12/00/ 3/100 2/100 2/100 90/ N 3 7 7 8 Volume 1530 1314 927 126 1314 314 £ 314 Total Time 300 (Mins) 06 00 8 9 8 16 W 14.6 14.6 0.3 14.6 End 14.6 Ś Flow Rate 14.6 14.6 9 Start 10.3 14.6 5 14.6 0 0830 1030 0885 1430 1730 1735 End 1031 Time Sp Sp 888 1600 95 Start 500 1605 8 Sample Type (1-10) C I 5 Project Name: UMASS AMHERST LGRC AICL Sample Location Reference Slide Duplicate Slide (a) produce (a) A106 Field Blank Field Blank NR FROM @ A106 NR- 826 Nº GENT NPE2 139N Client: GOLDMAN REINACK 二女子 A106 T AC Project #: 18300 18080 Location: Got Acc 99 97 9 63 10 P 9 8 8 APVOILIS-COG Sample # AD1118

5) During Final Clean 10) Other	
4) During Removal 9) Associated Work	
3) During Prep 8) Exposure Assesment	CONED FOUNDS PAFFAR.
2) Pre-Abatement 7) Final Air Clearance	PORED. NEEDED
Area Background During Glovebag Removal	DED GASTERSHIPS EX
Sample Type:	Notes: > WORK PROCED



CLIENT NAME	JOB SITE	SAMPLED BY	DATE SAMPLED	ATC JOB#
Goldman Reindorf Architects	University of Massachusetts Amherst; Room A106	Aric Pont	22-Oct-18	183DW18080

ANALYTICAL SERVICE LICENSE #: AAOOOOO5
AAR ANALYSIS: Aric Pont

Sample #	Sample Location	Sample Type	Volume	Fiber/field	Fibers/
000 000 01	Field Blank	Field Blank		0/100	
00	Field Blank	Field Blank		0/100	
4	Fiderica at Heit Deces	Area Background During Breat Work and During Removal	1494	3/100	<0.000
1	Exterior at Unit Decon Storage Unit Rear Storage Unit Front	Area Background, During Prep Work and During Removal Final Air Clearance	1314	4.5/400	<0.002 <0.002
2	Storage Unit Rear	Final Air Clearance	1314	1.5/100	<0.00
3	Storage Unit Front	Final Air Clearance	1314	1/100	<0.00
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PHASE CONTRAST MICROSCOPY AIR SAMPLING CHAIN OF CUSTODY

Laboratory ID #'s: AA000005 (MA) - CT.PH-0255 (CT) - CE947001 (VT)

ATC Group Services, LLC.
73 William Franks Drive, West Springfield, MA 01089
(413) 781-0070 (Phone) - (413) 781 3734 (Fax)

		(413) /81-00/0 (Fnone) - (413) 781 3734 (1
Project Name: UMM LORC A/OC	Project Manager: DW	Analyst Signature:
Project #: 18300 18080	Project Monitor: AP	Rotometer #: 2008
Client: (UCLD MAC ESTINABLE	Collection Date: 0 22	Relinquished By and Date:
Location: UMB (108C AloCo	Analysis Date: 10 22/18	Received By and Date:

Sample #	Sample Location	Sample Type	E	Time	Flow	Flow Rate	Total Time	Volume	Adjusted Count	Result
		(1-10)	Start	End	Start	End	(Mins)	3	(Fbs/Fds)	(£/cc)
AD102218A-01	Field Blank						-		00110	
107	Field Blank								0100	
									-1100	
-63	EXT. @ UNIT DECON	13.4	0745	1045	8.3	8.3	180	HOH	2 (00	700.07
ho	STOCKING UNT LEAL	7	1100	1230	14.6	14.6	06	1314	1.5/100	700.07
50 1	STORMER UNT FROM	7	1100	1230	9.41	14.6	96	1314	1/100	700.07
										(8)
1-061	Reference Slide								100/26	
AP102218A-04	Duplicate Slide									10.01
									1100	2

	Sample Type:	1) Area Background 6) During Glovebag Removal	2) Fre-Abatement 7) Final Air Clearance	3) During Prep8) Exposure Assesment	 During Removal Associated Work 	 During Final Clean Other 	
				9			
	Notes:						
•							



73 William Franks Drive West Springfield, MA, 01089 Tel: 413-781-0070

Fax: 413-781-3734

CLIENT: GROWAN REINDORF PARCHITECTS
PROJECT NUMBER: 1830w18080
GENERAL LOCATION: UMASS AUHERST - LGRC LOW PISE
ABATEMENT CONTRACTOR: ADEP
METHOD OF ABATEMENT: FUIL CONTAINMENT
TYPE AND QUANTITY OF MATERIAL ABATED: 40 21 SF MASTIC AREAS @ FRAME SCHOOLS,
~ 100 Fiz blue DAWBS ON STICK PUS, N 100 FT WORL (NTERICE), NZOOFIZ WAT MASTIC,
SUSPECT MATERIAL REMAINING IN WORK AREA: UAT MASTIC, FRAME SUPPER MASTIC PASTIC
SPECIFIC AREA INSPECTED: A106
CERTIFICATION OF VISUAL INSPECTION
In accordance with Specification for this project and any applicable regulations the Contractor hereby certifies that he has visually inspected the work area (all surfaces including pipes, beams,
ledges, walls, ceiling and floor, decontamination unit, sheet plastic, equipment, etc.) and has
found no visible dust, debris or residue.
Supervisor (Signature): Date: 8-2-18
(Print Name): HENRY Abrev
0/ 02 02 57
Accreditation Number: $\cancel{H50}\cancel{2}\cancel{5}$ State: $\cancel{N}\cancel{4}$
OWNER'S REPRESENTATIVE CERTIFICATION
The Owner's Representative hereby certifies that he as accompanied the Contractor on his visual
inspection and verifies that this inspection has been thorough and to the best of his knowledge and believes the Contractor certification above is true and honest one.
Project Monitor (Signature): Date: 8/2/18
(Print Name): Apric Pour
Accreditation Number:
State. 111



73 William Franks Drive West Springfield, MA, 01089 Tel: 413-781-0070 Fax: 413-781-3734

CLIENT: GOLDMAN RENDORF ARCHITECTS
PROJECT NUMBER: 1830W14080
GENERAL LOCATION: LERC (ON RISE - UMASS AMHERST
ABATEMENT CONTRACTOR: ADEP
METHOD OF ABATEMENT: FOIL (OUTDINANCE)
TYPE AND QUANTITY OF MATERIAL ABATED: 10 F1 2 WAY MASTIC, 2 FIRS DOOR
SUSPECT MATERIAL REMAINING IN WORK AREA: UNT MASTIC OUT of SOW
SPECIFIC AREA INSPECTED: AICL DOCKLOBY AREAS
CERTIFICATION OF VISUAL INSPECTION
In accordance with Specification for this project and any applicable regulations the Contractor hereby certifies that he has visually inspected the work area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, decontamination unit, sheet plastic, equipment, etc.) and has found no visible dust, debris or residue.
Supervisor (Signature): Wenny Date: 8/15/8
Supervisor (Signature): Worne Medina (Print Name): Worne Medina
(Print Name): Warne Medina
(Print Name): Warne Medina Accreditation Number: AS 90 Z 7 5 8 State: MA
(Print Name): Warne Medina
(Print Name): Warne Medina Accreditation Number: AS 90 Z 7 5 8 State: MA
(Print Name): Wayne Medina Accreditation Number: AS 90 27 58 State: MA OWNER'S REPRESENTATIVE CERTIFICATION The Owner's Representative hereby certifies that he as accompanied the Contractor on his visual inspection and verifies that this inspection has been thorough and to the best of his knowledge
(Print Name): Warne Medina Accreditation Number: AS 90 27 58 State: MA OWNER'S REPRESENTATIVE CERTIFICATION The Owner's Representative hereby certifies that he as accompanied the Contractor on his visual inspection and verifies that this inspection has been thorough and to the best of his knowledge and believes the Contractor certification above is true and honest one.



73 William Franks Drive West Springfield, MA, 01089 Tel: 413-781-0070 Fax: 413-781-3734

CLIENT: GOLDHAN PRUPORF PROJECT NUMBER: 1820 (1808) GENERAL LOCATION: UMBS AUMERST - LORC ALOR ABATEMENT CONTRACTOR: ADER METHOD OF ABATEMENT: FUIL CONTAINMENT TYPE AND QUANTITY OF MATERIAL ABATED: ~ 200 Ft unimosic, ~ 25 Ft Gold SUSPECT MATERIAL REMAINING IN WORK AREA: MA SPECIFIC AREA INSPECTED: ALOR , EAST SIDE, SWIH END
In accordance with Specification for this project and any applicable regulations the Contractor hereby certifies that he has visually inspected the work area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, decontamination unit, sheet plastic, equipment, etc.) and has found no visible dust, debris or residue. Supervisor (Signature):
OWNER'S REPRESENTATIVE CERTIFICATION
The Owner's Representative hereby certifies that he as accompanied the Contractor on his visual inspection and verifies that this inspection has been thorough and to the best of his knowledge and believes the Contractor certification above is true and honest one. Project Monitor (Signature): Date: 10/10/18
Accreditation Number: AMQ0048/ State: MA



73 William Franks Drive West Springfield, MA, 01089 Tel: 413-781-0070

Fax: 413-781-0070

CLIENT GOLDHAN LENDORF
PROJECT NUMBER: 1830 W 18080
GENERAL LOCATION: UMASS AMHERST- LGRC A106
ABATEMENT CONTRACTOR: ADEP
METHOD OF ABATEMENT: FOIL CONTAINMENT
TYPE AND QUANTITY OF MATERIAL ABATED: 6 2×5 WUDGES & PCB A
CAUCKING + GLAZING, " IOFF STICKPUS W/ MASTIC
SUSPECT MATERIAL REMAINING IN WORK AREA: NA
SPECIFIC AREA INSPECTED: Alou, EAST WALL, SOUTH ROOM
The province and the property of the property of the province of the property
CERTIFICATION OF VISUAL INSPECTION
In accordance with Specification for this project and any applicable regulations the Contractor
hereby certifies that he has visually inspected the work area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, decontamination unit, sheet plastic, equipment, etc.) and has
found no visible dust, debris or residue.
Supervisor (Signature): Worker Market Date: 10/11/18
1 (3 /
(Print Name): Warne Medma
Accreditation Number: ASQUAGE State: MA
Accreditation (vanios).
<u> </u>
OWNER'S REPRESENTATIVE CERTIFICATION
The Owner's Representative hereby certifies that he as accompanied the Contractor on his visual
inspection and verifies that this inspection has been thorough and to the best of his knowledge
and believes the Contractor certification above is true and honest one.
Project Monitor (Signature): Date: 18
(Print Name): ARCLONEC
Accreditation Number: State: State:
· I



73 William Franks Drive West Springfield, MA, 01089 Tel: 413-781-0070 Fax: 413-781-3734

CLIENT: GOLDHAN RELUDORF								
PROJECT NUMBER: 1830W18080	· · · · · · · · · · · · · · · · · · ·							
GENERAL LOCATION: OMASS AUTREST-LYCE ALOLO	• •							
ABATEMENT CONTRACTOR: ADER								
METHOD OF ABATEMENT: FULL COUTAINMENT								
TYPE AND QUANTITY OF MATERIAL ABATED: 4 2x5 www.	uj Pas New woon							
Continues GLAZING IN 10 FT? STICK PASS W/ ADHESIVE								
SUSPECT MATERIAL REMAINING IN WORK AREA: NA								
SPECIFIC AREA INSPECTED: ALOG GAST WALL NOOTH SWO								
CERTIFICATION OF VISUAL INSPECTION								
In accordance with Specification for this project and any applicable regul	ations the Contractor							
hereby certifies that he has visually inspected the work area (all surfaces ledges, walls, ceiling and floor, decontamination unit, sheet plastic, equip	ment, etc.) and has							
found no visible dust, debris or residue.	• •							
Supervisor (Signature): Wome	Date: 10 11 18							
(Print Name): Wond Medina								
Accreditation Number: ASOSALOS	State: MA							
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· · · · · · · · · · · · · · · · · · ·								
OWNER'S REPRESENTATIVE CERTIFICATION	ŝ.							
The Owner's Representative hereby certifies that he as accompanied the	Contractor on his visual							
inspection and verifies that this inspection has been thorough and to the b	est of his knowledge							
and believes the Contractor certification above is true and honest one.								
Project Monitor (Signature):	Date: 10 11 18							
(Print Name): ARC POINT								
	Λο ν							
Accreditation Number: AM90048	State: MA							



73 William Franks Drive West Springfield, MA, 01089 Tel: 413-781-0070 Fax: 413-781-3734

CLIENT: GCIDMAN RENDORF	N
PROJECT NUMBER: 1850w 18080	·
GENERAL LOCATION: UMPS JUHERST - LGRC AIOL	
ABATEMENT CONTRACTOR: ADEP	
METHOD OF ABATEMENT: FUIL COUTRILMENT NPE	· · · · · · · · · · · · · · · · · · ·
TYPE AND QUANTITY OF MATERIAL ABATED: PERPENALIE 4	DAYLUROS INTO 5 -
- DCB ALM SPECIAL LUMLARDOUS WASTE	
SUSPECT MATERIAL REMAINING IN WORK AREA: 5 6 Ay (1880)	FOR PICICUP
SPECIFIC AREA INSPECTED: STOCKES UNT @ LIGHT 9X	TERICR EAST
OPPETITION OF VIGILAL DISPECTION	
CERTIFICATION OF VISUAL INSPECTION	
In accordance with Specification for this project and any applicable regu	lations the Contractor
hereby certifies that he has visually inspected the work area (all surfaces ledges, walls, ceiling and floor, decontamination unit, sheet plastic, equi	pment, etc.) and has
found no visible dust, debris or residue.	, ,
Supervisor (Signature): Warne by	Date: 10 22 18
(Print Name): WARVE MEDIMA	
Accreditation Number: AS 902068	State: MA
Accreditation Number:	State
OWNER'S REPRESENTATIVE CERTIFICATION	
The Owner's Representative hereby certifies that he as accompanied the	Contractor on his visual
inspection and verifies that this inspection has been thorough and to the and believes the Contractor certification above is true and honest one.	best of his knowledge.
and beneves the contractor certification above a true and moneys one.	10/22/10
Project Monitor (Signature):	Date: 10 22/18
(Print Name): ARC Post	
Accreditation Number:	State: MA
A DOMOGRAPHION NUMBER OF LAND LAND LAND LAND LAND LAND LAND LAND	State: /VIII

BUILDING SCIENCES - MATERIALS TESTING

September 23, 2019 **APPENDIX C**

Final Completion Report Lederle GRC Lowrise Room A106 Renovations UMASS-Amherst

APPENDIX C

WASTE MANIFEST

P	ease	print or type. (Form desig	aned for use on elite (12.	nitch) transpirator)		a church	,	مرشس وأأس	g ~	11/101:	50			
Γ	וט, ן ן	NIFORM HAZARDOUS	Generator ID Number	pitch) typewriter.)	2. Page 1 of	3. Emergency R	sponse Phone	14. Manifes	Forn	n Approved. Of	MB No. 2050-00			
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$\ \ $		llity's Phone: (908)		•	•			Luma	AMMAAA					
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		Exporter. I certify that the cor	ntents of this consignment or	inform to the former of the	-ttttt	io internancharan	ı ı auonaı govern	imentai regulations.	lf export ship	ment and I am the	Primary			
E		certify that the waste minimi rator's/Offeror's Printed/Type	azanon statement identilled l	1 40 CFR 262.27(a) (if I an	n a large quantity genera	tor) or, (b) (if I am a	small quantity g	enerator) is true.						
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3	المراجع	والمناولة والمناور والمارون والمارون						U.S. EPA ID Nui	mber					
		's Phone:		Anna San Anna Anna Anna Anna Anna Anna A				- I	September 1	ing standard dead	mas (september 142)			
וַנְ	8c. Sig	gnature of Alternate Facility (or Generator)					**		Month	Day Year			
<u>2</u> -	Q Ho-	vardous Masta Donad Maria	goment tile the too to "											
3	v. i idZ	tardous Waste Report Manaç	yement Method Codes (i.e.,	codes for hazardous waste	treatment, disposal, and	recycling system	s)							
.		H110]3			4.						
2	0. Des	ignated Facility Owner or Op	perator: Certification of receip	nt of hazardous materials o	overed by the manifest a	Xcept as noted in	tem 18a		· · · · · · · · · · · · · · · · · · ·					
Į.	rinted/	Typed Name	10-10		Signatur		on ion	1		Month I	Day Year			
<u>΄</u>	Ormio	700-22 (Pay 2 05 07	JUDENT	The second secon	***************************************	1/0	(Sec)	u .		10 1	27/8			
, 11	ainto	700-22 (Rev. 3-05) Prev	ious editions are obsolet	9.		7	E	ESIGNATE	FACILI	TY TO GE	VERATOR			



SEPTEMBER 09, 2019 MAD000844670

UNIVERSITY OF MASSACHUSETTS - AMHERST

LGRO, 740 N. PLESANT ST

AMHERST, MA 01003

Re: Certificate of Disposal/Recycling

Work Order# 6744

MAD000844670

UNIVERSITY OF MASSACHUSETTS - AMHERST

LGRO, 740 N. PLESANT ST

AMHERST, MA 01003

Dear Sir/Madam:

This letter is to certify that Cycle Chem, Inc. (EPA ID No. NJD002200046) has accepted and processed the following shipments. This acceptance is in accordance with all state and federal regulations and with the requirements set forth in Cycle Chem's Hazardous Waste Facility Permit.

Date In	Manifest In	Prod Code (Off Spec)	Date Out	Manifest Out	Disposal Facility	Disposal Method	Drum Id	Mgt. Code
10/27/2018	016828302JJK-1	PCBE10	11/08/2018	020073024JJK	CHEMICAL WASTE MANAGEMENT, INC.	STABILIZATION	D7657-1	H110
10/27/2018	016828302JJK-1	PCBE10	11/08/2018	020073024JJK	CHEMICAL WASTE MANAGEMENT, INC.	STABILIZATION	D7657-2	H110
10/27/2018	016828302JJK-1	PCBE10	11/08/2018	020073024JJK	CHEMICAL WASTE MANAGEMENT, INC.	STABILIZATION	D7657-3	H110
10/27/2018	016828302JJK-1	PCBE10	11/08/2018	020073024JJK	CHEMICAL WASTE MANAGEMENT, INC.	STABILIZATION	D7657-4	H110
10/27/2018	016828302JJK-1	PCBE10	11/08/2018	020073024JJK	CHEMICAL WASTE MANAGEMENT, INC.	STABILIZATION	D7657-5	H110

If there are any further questions about the management of your waste, please call 908-355-5800

Broker:

ACV SC07 NORFOLK 6 SHIRE DRIVE NORFOLK, MA 02056

Sincerely,

Frank Fraumeni General Manager Cycle Chem, Inc. EPA ID No. NJD002200046