



JH Moore Elementary School
6990 Summerdale Avenue
Philadelphia, Pennsylvania

Asbestos Abatement Air Monitoring Report

AUGUST 27, 2018

PREPARED FOR:

School District of Philadelphia
440 North Broad Street, Room 3053
Philadelphia, Pennsylvania

Attn: Mr. Gerald Junod

PREPARED BY:

The Vertex Companies, Inc.
700 Turner Industrial Way
Aston, Pennsylvania 19014

PHONE 610.558.8902

VERTEX Project No: 51213

Work Order Numbers: 1759097

Control No: 2018831005

Encumbrance Number: 583018

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1.0 EXECUTIVE SUMMARY

In June 2018, The Vertex Companies, Inc. (VERTEX) was retained by the School District of Philadelphia to provide air monitoring and laboratory services in conjunction with an abatement project at the JH Moore Elementary School located at 6990 Summerdale Avenue in Philadelphia, PA. These services were performed under Encumbrance Number 583018, School District Control Number 2018831005 and Work Order Number 1759097.

Work activities were initiated in response to the newspaper article (i.e., dated May 10, 2018 online at Philly.com and May 13, 2018 in the Philadelphia Inquirer). The article reported that wipe sampling was performed by a staff member in the Second Floor Hallway, the Second Floor Copy Room/Women's Restroom and the Auditorium. The analytical results for the wipe samples collected ranged from a level of 78,600 F/cm² to 2,590,000 F/cm².

Following the review of the article and the analytical results reported, the School District of Philadelphia initiated a remedial effort to address the reported concerns. To that end, the following protocol was employed:

Initial Response

1. The School District directed one of its contracted consultants to inspect these areas for presence of asbestos containing materials and/or the potential source of the results reported.
2. In accordance with School District standard protocol, the building inspector prepared an Asbestos Design Data Collection (DDC).

Secondary Response

1. The School District of Philadelphia retained The Vertex Companies, Inc. (VERTEX) to consult/oversee any resulting remediation or abatement to be performed.
2. VERTEX, in conjunction with a representative of the Philadelphia Federation of Teachers, Mr. Jerry Roseman of Occupational Health Consultation Services, Inc. (OHCS) performed a re-inspection of designated areas of the school which included: 1st Floor Hallways, 2nd Floor Hallways, 2nd Floor Copy room and 2nd Floor Women's Restroom.
3. The re-inspection confirmed that asbestos containing vinyl floor tile was identified in each area.
4. A DDC was prepared by VERTEX. The DDC was utilized to define the abatement remedial effort to be employed. However, the school underwent a major renovation project throughout the summer. Therefore, the scope of initial remediation was limited to specific areas (additional areas will be performed as part of DDC O&M work in the Fall 2018). The scope of work included:

2nd Floor Hallway/Copy Room/Women's Restroom

- The removal of approximately 200 square feet of floor tile within the copy room. In addition, the copy room/women's restroom was HEPA vacuumed/wet wiped clean.
- The removal of approximately 30 square feet of floor tile within the 2nd floor center lobby common area.



- The removal of approximately 1 square foot of floor tile in the hall outside Classroom #203.
- The removal of approximately 1 square foot of floor tile in the hallway close to the center stairwell.
- All hallway areas on the 2nd floor were HEPA vacuumed/wet wiped clean.

1st Floor South Hallway/Auditorium

- The removal of approximately 48 square feet of floor tile on the stage in the auditorium.
- The removal of approximately 18 square feet of floor tile at the doorway, stage right.
- The removal of approximately 12 square feet of floor tile outside the slop sink in the 1st floor hallway.
- The removal of approximately 12 square feet of floor tile in the common area inside the center entrance.
- The auditorium and all south side hallway areas on the 1st floor were HEPA vacuumed/wet wiped clean.

Abatement Redial Effort

1. Work was performed between August 23, 2018 and August 26, 2018.
2. All work was performed in full accordance with the City of Philadelphia's Asbestos Control Regulations. Specifically, non-friable removal methodologies (i.e., dry ice) were employed.
3. All work was performed by members of the School District of Philadelphia's A-Team. The A-Team workers are all licensed by the City of Philadelphia and Commonwealth of Pennsylvania to perform asbestos abatement operations.
4. Daily air monitoring was performed by a licensed Asbestos Project Inspector (API) throughout the duration of the remedial effort.
5. At the completion of abatement, VERTEX's API performed a visual inspection and did not observe any dust or debris on any surfaces within the work areas.
6. The final air testing protocol employed included:
 - VERTEX collected five (5) PCM samples within the 2nd floor copy room work area.
 - VERTEX and OHCS collected five (5) samples within the work area throughout the 2nd floor hallway/copy room/women's restroom.
 - VERTEX and OHCS collected five (5) samples within the work area throughout the 1st floor south hallway and auditorium.
7. Analytical results of clearance testing throughout the 2nd floor hallway/copy room/women's restroom work area for both VERTEX and OHCS yielded levels below the City of Philadelphia's clearance criteria and below the AHERA clearance criteria.
8. Analytical results of clearance testing within the 1st floor hallway/auditorium found levels that passed the AHERA criteria but failed to reach the clearance criteria established by the City of Philadelphia's Asbestos Control Regulations.
9. The 1st floor work area was split into two (2) separate regulated areas (the south hallway and the auditorium). Both regulated areas were re-cleaned on August 25, 2018. Following re-cleaning, the API performed a visual inspection and did not observe any dust or debris on any surfaces within the work areas.

10. The second set of analytical results of clearance testing within the 1st floor south hallway for both VERTEX and OHCS yielded levels below the City of Philadelphia's clearance criteria of 0.00554 AS/cc, and the AHERA clearance criteria <70 AS/mm².
11. The second set of analytical results of clearance testing within the 1st floor south auditorium for both VERTEX and OHCS yielded levels below the City of Philadelphia's clearance criteria of 0.00554 AS/cc, and the AHERA clearance criteria <70 AS/mm².

2.0 PROJECT OVERSIGHT

VERTEX provided an API for on-site inspection and daily air monitoring throughout the duration of the project. Services were performed by certified APIs George Steffe (certification no. 951-1008) and Louis DiMichele (certification no. 991-1004). The project was managed by Donald P. Heim.

3.0 RESULTS

1. Airborne concentrations (i.e., five PCM samples) collected in the 2nd floor copy room work area after abatement (final clearances) were below the City of Philadelphia's recommended clearance criteria of 0.01 F/cc, for non-friable projects.
2. Airborne concentrations (i.e., five TEM samples) collected throughout the 2nd floor hallway/copy room/women's restroom and the 1st floor south hallway/auditorium work areas after abatement (final clearances) were below the City of Philadelphia's clearance criteria of 0.00554 AS/cc, and the AHERA clearance criteria <70 AS/mm². Note: Initial testing within the 1st floor south hallway/auditorium yielded levels above the City of Philadelphia's Clearance Criteria. Both areas were re-cleaned and re-testing in each area yielded levels below all clearance criteria.
3. Airborne concentrations collected outside the regulated work areas during abatement activities (perimeters) yielded levels below 0.01 F/cc.
4. Airborne concentrations collected inside the regulated work areas during abatement activities also yielded levels below 0.01 F/cc.

Please refer to the attached PCM Air Sampling Results, for a summary of the air sample results.

4.0 ANALYTICAL / AIR MONITORING METHODOLOGIES

Phase Contrast Microscopy (PCM) air samples were collected and analyzed in accordance with the National Institute of Safety and Health (NIOSH) Analytical Method #7400, "Asbestos Fibers in Air," using A counting rules. A segment of the collected sample filter is mounted on a slide, treated chemically to make the filter transparent, and then examined using a special microscope reticule and counting procedure with phase contrast illumination at 400 to 500 magnification. Any particle having a length to width (or aspect) ratio greater than 3:1, and a length of 5 micrometers (µm) or greater is counted as a fiber. PCM analysis does not distinguish between asbestos and non-asbestos fibers.



All air samples were collected by the high-volume method in which a pump is used to draw a volume of air through a membrane filter at a known rate. Typical sampling rates for final air testing are less than 10 Liters per minute (L/min) for approximately 1200-1,800 liters. Samples are collected in 25-millimeter (mm) cassettes containing a mixed cellulose ester (MCE) filter with a 0.8 µm-effective pore size for PCM analysis.

Final clearance air samples were collected and analyzed by both Phase Contrast Microscopy (PCM) and Transmission Electron Microscopy (TEM). TEM analysis was performed by International Asbestos Testing Laboratories (IATL) of Mount Laurel, New Jersey (AIHA #100188).

5.0 ABATEMENT METHODOLOGIES

Abatement was performed by Commonwealth of Pennsylvania/City of Philadelphia licensed asbestos abatement workers. All licensed workers donned proper personal protective (PPE) equipment, including but not limited to TYVEK® suits and NIOSH approved half-face air purifying respirators.

Non-Friable

Prior to removal, utilizing an approved Alternative Method (i.e. dry ice) asbestos warning signs were posted to demarcate the asbestos regulated work areas and asbestos warning tape was used for notification purposes. Access to the regulated areas was limited to authorized personnel only.

Critical barriers consisting of two layers of plastic sheeting were used to seal over all openings in the work areas and prevent airborne asbestos from migrating to adjacent areas. In addition, plastic sheeting was utilized to cover designated objects within each area. Microtraps were installed within each work area and a single stage decontamination unit was established at the entrance to each work area.

Abatement operations were performed utilizing non-friable removal methodologies (i.e., dry ice). At the completion of abatement operations, final air testing incorporated TEM (i.e., five samples) methodologies.

Following the completion of the abatement operations, all waste generated as part of the removal project was double-bagged and labeled for proper disposal. Asbestos waste will be transported by Super Kwik, a licensed waste transporter, and disposed of Dauphin Meadows, an EPA approved landfill.

6.0 SUMMARY OF PCM AIR SAMPLING RESULTS

JH Moore Elementary School 6990 Summerdale Avenue Philadelphia, Pennsylvania				
Sample #	Sample Location/Activity	Volume (L)	Fibers per 100 Fields	Sample Result (F/cc)
Date collected: 8/23/18				
Site Activity/Work Area: 1st & 2nd Floors (Room #201, Copy Room & Auditorium)				
8.23.01	Perimeter: 1 st floor at entrance to auditorium	1203	2.5	<0.002
8.23.02	Perimeter: 2 nd floor hallway at room #201	1119	0	<0.002
8.23.03	Perimeter: 2 nd floor, hallway at copy room	1110	3	<0.002
Date collected: 8/23/18				
Site Activity/Work Area: 1st Floor - Baselines				
8.23.01	Baseline: In front of auditorium at stage	1134	4	<0.002
8.23.02	Baseline: In rear of auditorium adjacent to entrance/exit	1107	4.5	<0.002
8.23.03	Baseline: In hallway at electrical panel box	1098	2	<0.002
8.23.04	Baseline: In hallway at rec room	1080	3.5	<0.002
8.23.05	Baseline: In hallway at girls' room	1080	1	<0.002
Date collected: 8/23/18				
Site Activity/Work Area: Room #201 – PCM Finals				
8.23.01	Final: In Room #201	1215	0	<0.002
8.23.02	Final: In Room #201	1215	1.5	<0.002
8.23.03	Final: In Room #201	1215	2	<0.002
8.23.04	Final: In Room #201	1215	1	<0.002
8.23.05	Final: In Room #201	1215	4	<0.002
Date collected: 8/23/18				
Site Activity/Work Area: 2nd Floor Copy Room – Non-Friable VAT Removal				
8.23.01	Final: In copy room	1161	6	0.002
8.23.02	Final: In copy room	1161	4.5	<0.002
8.23.03	Final: In copy room	1152	2	<0.002
8.23.04	Final: In copy room	1152	4	<0.002
8.23.05	Final: In copy room	1152	4.5	<0.002
8.23.06	Blank	-	0	-
8.23.07	Blank	-	0	-

JH Moore Elementary School 6990 Summerdale Avenue Philadelphia, Pennsylvania				
Sample #	Sample Location/Activity	Volume (L)	Fibers per 100 Fields	Sample Result (F/cc)
Date collected: 8/24/18				
Site Activity/Work Area: 2nd Floor Baselines				
8.24.01	Baseline: In hallway at mechanical room	1305	8.5	0.003
8.24.02	Baseline: In hallway at boy's room	1278	4	<0.002
8.24.03	Baseline: In hallway at copy room	1260	5.5	0.002
8.24.04	Baseline: In hallway at 201	1242	5	<0.002
8.24.05	Baseline: In hallway at 213	1215	2	<0.002
Date collected: 8/24/18				
Site Activity/Work Area: 1st Floor & 2nd Floors Hallways/Prep – HEPA Vac				
8.24.01	Perimeter: 1 st floor hallway at boy's room	1089	13	0.006
8.24.02	Perimeter: 1 st floor hallway at Room #107	1089	10	0.004
8.24.03	Work area: 2 nd floor hall at mechanical room	1086	8	0.004
8.24.04	Work area: 1 st floor hall at Room #105	1086	11	0.005
8.24.05	Work area: In auditorium (front) at stage	1089	6	0.003
8.24.06	Blank	-	0	-
8.24.07	Blank	-	0	-
Date collected: 8/25/18				
Site Activity/Work Area: 1st Floor Hallway & Auditorium Containment/Re-Cleaning				
8.25.01	Perimeter: Hallway outside principal's office	696	5	<0.004
8.25.02	Perimeter: Hallway outside main office	696	3.5	<0.004
8.25.03	Perimeter: Main entrance lobby	696	6	0.004
8.25.04	Field Blank	-	0	-
8.25.05	Lab Blank	-	0	-

7.0 SUMMARY OF TEM AIR SAMPLING RESULTS

PRELIMINARY RESULTS
Airborne Asbestos Analysis
TEM AHERA

Client: Vertex
700 Turner Way Suite 105
Aston PA 19014

Client No.: VER100

Batch No.: 571479
Project: PSD/JH Moore ES
Project No.: 51213
Philly Regs: Y
Turn-Around Time: 6 Hour Rush

Client Contacts:	Laboratory Contacts:
Contacts: _____	Contacts: <u>Frank E. Ehrenfeld III</u>
Phone: _____	Phone: <u>(856) 231-9449</u>
Fax: _____	Fax: <u>(856) 231-9818</u>
Cell/Pager: _____	Cell/Pager: <u>(609) 929-4211</u>
E-Mail: _____	E-Mail: <u>frankchrenfeld@iatl.com</u>

Chain of Custody:			
Samples Taken in Field:	_____	Date: _____	Time: _____
Samples Rec'd at Laboratory:	<u>K. Goedde</u>	Date: <u>8/25/2018</u>	Time: _____
Samples Analyzed:	<u>K. Goedde</u>	Date: <u>8/25/2018</u>	Time: _____
Preliminary Results Faxed:	_____	Date: _____	Time: _____
Preliminary Results E-Mail:	_____	Date: _____	Time: _____

Summary Data
Transmission Electron Microscopy
AHERA 40CFR 763

Client Sample ID #	IATL Sample ID #	Volume (L)	Comments	Results s/mm ²	Results s/cc
C-11	6591056	1818	Chrysotile	19.2	0.0041
C-12	6591057	1818	Chrysotile	19.2	0.0041
C-13	6591058	1818	None Detected	< 19.2	< 0.0041
C-14	6591059	1818	None Detected	< 19.2	< 0.0041
C-15	6591060	1802	Chrysotile	19.2	0.0041

AHERA Clearance Criteria is 70 s/mm². Average (s/mm²) = 19.2
 Phila. Regulations Clearance Criteria is 0.00554 s/cc Geo = 0.0041
 Z Test Results (see attached, if applicable)

Grid Box #: 1166
Instrument (I, II, III) II

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.
 TEM AHERA 001 Revision Date 06/22/18



9000 Commerce Parkway, Suite B • Mount Laurel, NJ 08054
Phone: 877-428-4285 856-231-9449 • Fax: 856-231-9818

Chain of Custody

Contact Information

Client Company: Vertex
Office Address: 700 Furness Way
City, State, Zip: Aston PA 19014
Fax Number: 610-550-8904
Email Address: dheim@vertexeng.com

Project Number: 51213
Project Name: PSP / JH Meigs ES
Primary Contact: DG Helm
Office Phone: _____
Cell Phone: 610-787-0402

Matrix:

Air Water Soil Paint Bulk Surface Dust Wipe Other

Analysis Method:

PCNE: NIOSH 7400
 PCNE: OSHA
 PCNE: IWA

Total Dust: NIOSH 0500
 Total Dust: NIOSH 0600

AAS: Lead in Air
 AAS: Lead in Water
 AAS: Lead in Paint
 AAS: Lead Dust Wipe
 AAS: Lead in Soil
 AAS: TCLP
 AAS: Metals [Cd, Zn, Cr-circle]

PLM Use Bulk Asbestos Sample Log

PLM: Bulk Asbestos EPA 600
 PLM: Point Counting 198.1
 PLM: NOB via 198.6 (PLM only)
 If 198.6 by PLM, to TEM via 198.4

IAQ Use Mold Sample Log

IAQ: I Bioaerosol Fungal Spore Trap
 IAQ: II Bioaerosol Fungal Spore
 IAQ: Tape, Bulk, Misc. Qualitative
 IAQ: Tape, Bulk, Misc. Quantitative
 IAQ: Other Culturable ID

TEM: AHERA
 TEM: NIOSH 7402
 TEM: ISO 10312
 TEM: ISO 13794
 TEM: Wipe ASTM 6480
 TEM: Microvac ASTM D5755
 TEM: Microvac ASTM D5756
 TEM: NOB 198.4
 TEM: Bulk Analysis
 TEM: Potable Water
 TEM: Non-Potable Water
 TEM: Other Phila. Reg
 Soil: Call for Available Methods

Need Geo Map

Special Instructions:

Need Results No later than 10:00pm 8/25/18

Turnaround Time

Preliminary Results Requested Date: 8/25/18 by 10:00pm
Specific date/time
 10 Day 5 Day 3 Day 2 Day 1 Day* 12 Hour** 6 Hour** RUSH**
* End of next business day unless otherwise specified. ** Matrix Dependent. *** Please notify the lab before shipping***

Shipping Method

FedEx UPS USPS Other _____

Chain of Custody

Relinquished (Name Organization): [Signature] Date: 8/25/18 Time: _____
Received (Name IATL): _____ Date: _____ Time: _____
Sample Login (Name IATL): _____ Date: _____ Time: _____
Analyst (Name(s) IATL): WLO82518 Date: _____ Time: _____
QA/QC Review (Name IATL): _____ Date: _____ Time: _____
Archived/Released: _____ QA/QC Interf. AB Use: _____ Date: _____ Time: _____

AUG 25 2018

[Signature]

PRELIMINARY RESULTS
Airborne Asbestos Analysis
TEM AHERA

Client: Vertex
700 Turner Way Suite 105
Aston PA 19014
Client No.: VER100

Batch No.: 571468
Project: PSD/JH Moore ES
Project No.: 51213
Philly Regs: Y
Turn-Around Time: 6 Hour Rush

Client Contacts:	Laboratory Contacts:
Contacts: _____	Contacts: <u>Frank E. Ehrenfeld III</u>
Phone: _____	Phone: <u>(856) 231-9449</u>
Fax: _____	Fax: <u>(856) 231-9818</u>
Cell/Pager: _____	Cell/Pager: <u>(609) 929-4211</u>
E-Mail: _____	E-Mail: <u>frankchrenfeld@iatl.com</u>

Chain of Custody:			
Samples Taken in Field:	_____	Date: _____	Time: _____
Samples Rec'd at Laboratory:	<u>K. Goedde</u>	Date: <u>8/25/2018</u>	Time: _____
Samples Analyzed:	<u>K. Goedde</u>	Date: <u>8/25/2018</u>	Time: _____
Preliminary Results Faxed:	_____	Date: _____	Time: _____
Preliminary Results E-Mail:	_____	Date: _____	Time: _____

Summary Data
Transmission Electron Microscopy
AHERA 40CFR 763

Client Sample ID #	IATL Sample ID #	Volume (L)	Comments	Results s/mm ²	Results s/cc
C-06	6590989	1818	Chrysotile	38.5	0.0081
C-07	6590990	1802	None Detected	< 19.2	< 0.0041
C-08	6590991	1802	None Detected	< 19.2	< 0.0041
C-09	6590992	1818	Chrysotile Actinolite	57.7	0.012
C-10	6590993	1802	None Detected	< 19.2	< 0.0041

AHERA Clearance Criteria is 70 s/mm². Average (s/mm²) = 30.8
Phila. Regulations Clearance Criteria is 0.00554 s/cc Geo = 0.00582
Z Test Results (see attached, if applicable)

Grid Box #: 1166
Instrument (I, II, III) II

Sample analysis terminated. Set fails by Phila. Regulations. (Geometric mean > 0.00554 s/cc)

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.

Chain of Custody

Contact Information	
Client Company: <u>VERTEX</u>	Project Number: <u>51213</u>
Office Address: <u>700 Turner Way, Ste 105</u>	Project Name: <u>PSP / JH Moore ES</u>
City, State, Zip: <u>Aston, PA 19014</u>	Primary Contact: <u>Don Heim</u>
Fax Number: <u>610-558-8904</u>	Office Phone: <u>610-558-8902</u>
Email Address: <u>dheim@vertexeng.com</u>	Cell Phone: <u>610-787-0402</u>

Matrix: Air Water Soil Paint Bulk Surface Dust / Wipe Other

Analysis Method:

<input type="checkbox"/> PCM: NIOSH 7400 <input type="checkbox"/> PCM: OSHA <input type="checkbox"/> PCM: TWA <input type="checkbox"/> Total Dust: NIOSH 0500 <input type="checkbox"/> Total Dust: NIOSH 0600 <input type="checkbox"/> AAS: Lead in Air <input type="checkbox"/> AAS: Lead in Water <input type="checkbox"/> AAS: Lead in Paint <input type="checkbox"/> AAS: Lead Dust/Wipe, <input type="checkbox"/> AAS: Lead in Soil <input type="checkbox"/> AAS: TCLP <input type="checkbox"/> AAS: Metals [Cd, Zn, Cr-circle]	<p><i>PLM Use Bulk Asbestos Sample Log</i></p> <input type="checkbox"/> PLM: Bulk Asbestos EPA 600 <input type="checkbox"/> PLM: Point Counting 198.1 <input type="checkbox"/> PLM: NOB via 198.6 (PLM only) <input type="checkbox"/> If <1% by PLM, to TEM via 198.4 z <p><i>IAQ Use Mold Sample Log</i></p> <input type="checkbox"/> IAQ: I Bioaersol Fungal Spore Trap, <input type="checkbox"/> IAQ: II Bioaersol Fungal Spore <input type="checkbox"/> IAQ: Tape, Bulk, Misc. Qualitative, <input type="checkbox"/> IAQ: Tape, Bulk, Misc. Quantitative, <input type="checkbox"/> IAQ: Other Culturable ID ₂	<input checked="" type="checkbox"/> TEM: AHERA <input type="checkbox"/> TEM: NIOSH 7402 <input type="checkbox"/> TEM: ISO 10312 <input type="checkbox"/> TEM: ISO 13794 <input type="checkbox"/> TEM: Wipe ASTM 6480 <input type="checkbox"/> TEM: Microvac ASTM D5755 <input type="checkbox"/> TEM: Microvac ASTM D5756 <input type="checkbox"/> TEM: NOB 198.4 <input type="checkbox"/> TEM: Bulk Analysis <input type="checkbox"/> TEM: Potable Water <input type="checkbox"/> TEM: Non-Potable Water <input checked="" type="checkbox"/> TEM: Other <u>Phila Regs</u> <input type="checkbox"/> Soil: Call for Available Methods <u>NEF Geo Mean</u>
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1- Requires ASTM acceptable material 2- Call to confirm TAT 3- Non-culturable 4- With Non-fungal Microscopic Exam

Special Instructions: Need results by 7:00pm

Turnaround Time

Preliminary Results Requested Date: 8/25/18 = No later than 7:00pm Verbal Email Fax

Specific date / time

10 Day 5 Day 3 Day 2 Day 1 Day* 12 Hour** 6 Hour** RUSH**

* End of next business day unless otherwise specified. ** Matrix Dependent. ***Please notify the lab before shipping***

Shipping Method

FedEx UPS USPS Other _____

Chain of Custody

Relinquished (Name/Organization): <u>[Signature]</u>	Date: <u>8/25/18</u>	Time: <u>7:31</u>	
Received (Name / iATL): _____	Date: _____	Time: _____	
Sample Login (Name / iATL): _____	Date: _____	Time: _____	
Analyst (Name(s) / iATL): <u>WLOS2SIX</u>	Date: _____	Time: <u>UG 25 2018</u>	
QA/QC Review (Name / iATL): _____	Date: _____	Time: _____	
Archived / Released: _____	QA/QC InterLAB Use: _____	Date: _____	Time: _____

Do not Analyze o/s - outside sample - o/s-1 - o/s-05 / please hold

Sample Log

- Airborne Asbestos -

Client: **VERTEX**

Project: Job # 51213 / JH Moore ES

Sampling Date/Time: 8/25/18

All samples from 1st Floor

Client Sample #	iATL #	Location/Description	Flow Rate	Start End	Sampling time (min)	Area (ft2) Volume (L)	Results ()
o/s-01	8890984	o/s w/ A main lobby	9.9 / 9.9	8:00 AM / 11:00 AM	1802		
o/s-02	8890985	Hallway across Principal office	9.9 / 9.9	8:02 AM / 11:05 AM	1818		
o/s-03	8890986	o/s w/ A Hallway Next to Bay Rm	9.9 / 9.9	8:05 AM / 11:07 AM	1802		
o/s-04	8890987	o/s w/ A Hallway o/s Rm 106	9.9 / 9.9	8:07 AM / 11:10 AM	1818		
o/s-05	8890988	o/s w/ A Hallway o/s Rm 107	9.9 / 9.9	8:10 AM / 11:12 AM	1802		
C-06	8890989	Auditorium	9.9 / 9.9	8:12 AM / 11:15 AM	1818		
C-07	8890990	Hallway across Janitor's closet	9.9 / 9.9	8:14 AM / 11:16 AM	1802		
C-08	8890991	Hallway center lobby	9.9 / 9.9	8:16 AM / 11:18 AM	1802		
C-09	8890992	Hallway across Rm 113	9.9 / 9.9	8:19 AM / 11:21 AM	1818		
C-10	8890993	Hallway Next to Rm 101	9.9 / 9.9	8:20 AM / 11:22 AM	1802		

* - Insufficient Sample Provided to Perform QC Reanalysis (<200mg)
 ** - Insufficient Sample Provided to Analyze (<50mg) *** - Matrix / Substrate Interference Possible
 FB - Method Requires the submittal of blank(s). ML - Multi Layered Sample. May result in inconsistent results

These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.

Don Heim
 dheim@vertexeng.com
 610 757-0402

TEM AHERA & City of Phila
 6 hr TAT or by noon 8/26/18

Sample Log

-Airborne Asbestos -

Client: Vertex

Project: JH Moore / 51213

Sampling Date/Time: 8/26/18

Do not analyze blanks - hold

Client Sample #	iATL #	Location/Description	Flow Rate	Start End	Sampling time (min)	Area (ft2) Volume (L)	Results ()
JHM-01		Hallway across Janitor's Closet	9.5	1237 AM 344 AM	190	1805	6591134
JHM-02		Auditorium Lobby	9.5	1240 AM 352 AM	190	1805	6591135
JHM-03		Hallway Center Lobby	9.5	1241 AM 351 AM	190	1805	6591136
JHM-04		Hallway across Rm 113	9.5	1242 AM 352 AM	190	1805	6591137
JHM-05		Hallway next to Rm 101	9.5	1243 AM 353 AM	190	1805	6591138
JHM-06		IWA Blank					6591139
JHM-07		OWA Blank					6591140
JHM-08		Lab Blank					6591141

RECEIVED

AUG 26 2018
 @ 0435

iATL - By: *[Signature]*
 Prop. *[Signature]*

* = Insufficient Sample Provided to Perform QC Reanalysis (<200mg)
 ** = Insufficient Sample Provided to Analyze (<50mg) *** = Matrix / Substrate Interference Possible
 FB = Method Requires the submittal of blank(s). ML = Multi Layered Sample. May result in inconsistent results.
 These preliminary results are issued by iATL to expedite procedures by clients based upon the above data. iATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificate of Analysis will follow these preliminary results. The signed COA is to be considered the official results. All EPA, HUD, and NJDEP conditions apply.

Log in
 LSP

Relinquished: *[Signature]* / Vertex 8/26/18 4:35 AM

analyzed: JS 8/26/18

PRELIMINARY RESULTS
Airborne Asbestos Analysis
TEM AHERA

Client: The Vertex Companies, Inc.
700 Turner Way, Suite 105
ASTON, PA 19014

Client No.: VER100

Batch No.: 571481
Project: JH Moore
Project No.: 51213
Philly Regs: Y
Turn-Around Time: 6 Hour Rush

Client Contacts:	Laboratory Contacts:
Contacts: _____	Contacts: <u>Frank E. Ehrenfeld III</u>
Phone: _____	Phone: <u>(856) 231-9449</u>
Fax: _____	Fax: <u>(856) 231-9818</u>
Cell/Pager: _____	Cell/Pager: <u>(609) 929-4211</u>
E-Mail: _____	E-Mail: <u>frankehrenfeld@iatl.com</u>

Chain of Custody:			
Samples Taken in Field:	<u>Client</u>	Date:	<u>8/26/2018</u> Time: _____
Samples Rec'd at Laboratory:	<u>WRR</u>	Date:	<u>8/26/2018</u> Time: _____
Samples Analyzed:	<u>J. Jeon</u>	Date:	<u>8/26/2018</u> Time: _____
Preliminary Results Faxed:	_____	Date:	_____ Time: _____
Preliminary Results E-Mail:	_____	Date:	_____ Time: _____

Summary Data
Transmission Electron Microscopy
AHERA 40CFR 763

Client Sample ID #	IATL Sample ID #	Volume (L)	Comments	Results s/mm ²	Results s/cc
JHM-01	6591134	1805	None Detected	< 19.2	< 0.0041
JHM-02	6591135	1805	None Detected	< 19.2	< 0.0041
JHM-03	6591136	1805	None Detected	< 19.2	< 0.0041
JHM-04	6591137	1805	None Detected	< 19.2	< 0.0041
JHM-05	6591138	1805	None Detected	< 19.2	< 0.0041

AHERA Clearance Criteria is 70 s/mm². Average (s/mm²) = 19.2
Phila. Regulations Clearance Criteria is 0.00554 s/cc Geo = 0.0041
Z Test Results (see attached, if applicable)

Grid Box #: 1168
Instrument (I, II, III) II

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.



9000 Commerce Parkway, Suite B • Mount Laurel, NJ 08054
Phone: 877-428-4285 856-231-9449 • Fax: 856-231-9818

Chain of Custody

Contact Information

Client Company: Vertex Project Number: 51213
 Office Address: _____ Project Name: RSD (JH Module)
 City, State, Zip: Aston Pa Primary Contact: Lee D. Michels
 Fax Number: _____ Office Phone: _____
 Email Address: DHEIM@VERTXENG.COM Cell Phone: 215-783-8772

Matrix:

Air Soil Bulk Other
 Water Paint Surface Dust Wipe

Analysis Method:

PCME NIOSH 7400 PLM Use Bulk Asbestos Sample Log
 PCME OSHA PLM Bulk Asbestos EPA 600 TEM AHRA *Phila Regs.*
 PCME TWA PLM Point Counting 198.1 TEM NIOSH 7402
 Total Dust: NIOSH 0500 PLM NOB via 198.6 (PLM only) TEM ISO 10312
 Total Dust: NIOSH 0600 If 1% by PLM to TEM via 198.4 TEM ISO 13794
 AAS: Lead in Air TEM Wipe ASTM 6480
 AAS: Lead in Water TEM Microvac ASTM D5755
 AAS: Lead in Paint TEM Microvac ASTM D5756
 AAS: Lead Dust Wipe TEM NOB 198.4
 AAS: Lead in Soil TEM Bulk Analysis
 AAS: TCLP TEM Potable Water
 AAS: Metals [Cd, Zn, Cr-circle] TEM Non-Potable Water
 TEM Other
 Soil: Call for Available Methods

1- Requires ASTM acceptable material 2- Call to confirm IATL 3- Non-culturable 4- With Non-Ionical Microscopic Exam

Special Instructions:
** Phila. Regulations.*

Turnaround Time

Preliminary Results Requested Date: _____ Verbal Email Fax
 Specific date / time
 10 Day 5 Day 3 Day 2 Day 1 Day 12 Hour 6 Hour RUSH
 * End of next business day unless otherwise specified. ** Matrix Dependent. *** Please notify the lab before shipping***

Shipping Method

FedEx UPS USPS Other _____

Chain of Custody

Relinquished (Name / Organization): J. D. Michels Date: 8-26-18 Time: _____
 Received (Name / IATL): _____ Date: _____ Time: _____
 Sample Login (Name / IATL): _____ Date: _____ Time: _____
 Analyst (Name(s) / IATL): SS Date: 8/26/18 Time: _____
 QA/QC Review (Name / IATL): _____ Date: _____ Time: _____
 Archived / Released: _____ QA/QC InterLAB Use: _____ Date: _____ Time: _____

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 AUG 26 2018

IATL - BY SS

PRELIMINARY RESULTS
Airborne Asbestos Analysis
TEM AHERA

Client: The Vertex Companies, Inc.
700 Turner Way, Suite 105
ASTON, PA 19014

Client No.: VER100

Batch No.: 571482
Project: PSD (JH Moore)
Project No.: 51213
Philly Regs: Y
Turn-Around Time: 6 Hour Rush

Client Contacts:	Laboratory Contacts:
Contacts: _____	Contacts: <u>Frank E. Ehrenfeld III</u>
Phone: _____	Phone: <u>(856) 231-9449</u>
Fax: _____	Fax: <u>(856) 231-9818</u>
Cell/Pager: _____	Cell/Pager: <u>(609) 929-4211</u>
E-Mail: _____	E-Mail: <u>frankehrenfeld@iatl.com</u>

Chain of Custody:			
Samples Taken in Field:	<u>Client</u>	Date: <u>8/26/2018</u>	Time: _____
Samples Rec'd at Laboratory:	<u>J. Jeon</u>	Date: <u>8/26/2018</u>	Time: _____
Samples Analyzed:	<u>J. Jeon</u>	Date: <u>8/26/2018</u>	Time: _____
Preliminary Results Faxed:	_____	Date: _____	Time: _____
Preliminary Results E-Mail:	_____	Date: _____	Time: _____

Summary Data
Transmission Electron Microscopy
AHERA 40CFR 763

Client Sample ID #	IATL Sample ID #	Volume (L)	Comments	Results s/mm ²	Results s/cc
A-001	6591142	1831.5	None Detected	< 19.2	< 0.004
A-002	6591143	1831.5	None Detected	< 19.2	< 0.004
A-003	6591144	1831.5	None Detected	< 19.2	< 0.004
A-004	6591145	1831.5	None Detected	< 19.2	< 0.004
A-005	6591146	1831.5	None Detected	< 19.2	< 0.004

AHERA Clearance Criteria is **70 s/mm²**. Average (s/mm²) = **19.2**
Phila. Regulations Clearance Criteria is **0.00554 s/cc**. Geo = **0.004**
Z Test Results (see attached, if applicable)

Grid Box #: 1168
Instrument (I, II, III) II

These preliminary results are issued by IATL to expedite procedures by the clients based upon the above data. IATL assumes that all of the sampling methods and data upon which these results are based, has been accurately supplied by the client. These results may not have been reviewed by the Laboratory Director. Final Certificates of Analysis will follow these preliminary results. The signed COAs are to be considered the official results.
TEM AHERA 001 Revision Date: 06-22-18