Synertech Inc.
ENVIRONMENTAL CONSULTING
228 Moore Street • Philadelphia, Pennsylvania 19148
Phone 215-755-2305 • Fax 215-755-2405
www.gosynertech.com

Project: Ben Franklin H.S. Date: 10-9-2019

Project Number: 010-4507 Rotometer No.: HVR____ LVR____

Laboratory: IATL Analysis: TEM Phila. Requirements: ☒ YES ☐ NO

AIR SAMPLE LOG & CHAIN OF CUSTODY

SAMPLES			TIME			CALIBRATION			ANALYTICAL	
No.	Location	Code	On	Off	Total	Start	Finish	Liters	Laboratory # Fibers/Fields	Results
JR10M9-01	MECH. ROOM #20 WEST	1A	3:43	6:43	180	10	10	1800	6895081	
JR10M9-02	MECH ROOM #20 Middle	1A	3:43	6:43	180	10	10	1800	6895082	
JR10M9-03	MECH ROOM #20 EAST	1A	3:43	6:43	180	10	10	1800	6895083	
JR10M9-04	TENT OUTSIDE ROOMS 18 AND 20 INSIDE TENT	1A	3:41	6:41	180	10	10	1800	6895084	
JR10M9-05	HALL OUTSIDE MECH ROOM #20	IN	3:39	6:39	180	10	10	1800	6895085 RECEIVED OCT - 9 2019	
JR10M9-06	HALL OUTSIDE TENT	IN	3:39	6:39	180	10	10	1800	6895086	
JR10M9-07	HALL OUTSIDE ROTC	IN	3:39	6:39	180	10	10	1800	IATL-By 6895087	DO
JR10M9-08	Sealed BLANK	Qc	—	—	—	—	—	—	6895088	

Sampling Codes

1 Diagnostic
2 Preliminary
3 Clearance/Final
4 Personnel Work Area
5 Environmental Work Area
6 Personnel Clean Area
7 Environmental Clean Area

A Aggressive
N Normal
E Excursion
T TWA
R Representative

Turnaround Time (TAT): ☐ Immediate ☒ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ Other ____

6 Hour TAT Contact: Bernie Bryson at: ____

Samples Collected By: J. Merritt Date: 10-9-19

Transmitted to Lab By: J. Merritt Date: 10-9-19

Received in Lab By: ____ Date: ____

Samples Analyzed By: JJ Date: 10/10/19

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Project: Ben Franklin H.S. Date: 10-9-19

Project Number: 010-4507 Rotometer No.: HVR____LVR____

Laboratory: IATL Analysis: TEM Phila. Requirements: ☒ YES ☐ NO

AIR SAMPLE LOG & CHAIN OF CUSTODY

SAMPLES			TIME			CALIBRATION			ANALYTICAL	
No.	Location	Code	On	Off	Total	Start	Finish	Liters	Laboratory # Fibers/Fields	Results
JRM-09	Sealed BLANK.	QC	—	—	—	—	—	—	6895089	
JRM-10	Field BLANK	QC	—	—	—	—	—	—	6895090	
- -										
- -										
- -										
- -										
- -										
- -										

Sampling Codes

1 Diagnostic
2 Preliminary
3 Clearance/Final
4 Personnel Work Area
5 Environmental Work Area
6 Personnel Clean Area
7 Environmental Clean Area

A Aggressive
N Normal
E Excursion
T TWA
R Representative

Turnaround Time (TAT): ☐ Immediate ☒ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ Other ____

6 Hour TAT Contact: Bernie Bryson at: ____

Samples Collected By: J. Merritt Date: 10-9-19

Transmitted to Lab By: J. Merritt Date: 10-9-19

Received in Lab By: ____ Date: ____

Samples Analyzed By: ____ Date: ____

IATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway, Suite B Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

PRELIMINARY RESULTS
Airborne Asbestos Analysis
TEM AHERA

Client:	Synertech Inc.	Batch No.:	601516
	228 Moore Street	Project:	Ben Franklin HS
	Philadelphia, PA 19148	Project No.:	010-4507
Client No.:	SYN177	Philly Regs:	Y
		Turn-Around Time:	6 Hour Rush

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

Chain of Custody:

Samples Taken in Field:	Client	Date:	10/9/2019	Time:	
Samples Rec'd at Laboratory:	DG	Date:	10/9/2019	Time:	
Samples Analyzed:	J. Jeon	Date:	10/10/2019	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/mm²	Results s/cc
JRM-1009-01	6895081	1800	None Detected	< 19.2	< 0.0041
JRM-1009-02	6895082	1800	None Detected	< 19.2	< 0.0041
JRM-1009-03	6895083	1800	None Detected	< 19.2	< 0.0041
JRM-1009-04	6895084	1800	None Detected	< 19.2	< 0.0041
JRM-1009-05	6895085	1800	None Detected	< 19.2	< 0.0041
JRM-1009-06	6895086	1800	None Detected	< 19.2	< 0.0041
JRM-1009-07	6895087	1800	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 based on 5 samples Geo = 0.0041
Z Test Reults (see attached, if applicable)

Grid Box #: 1751

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.

IATL International Asbestos Testing Laboratories

TEM Air Sample Worksheet

Client Name:	Synertech Inc.	**Analysis Date:** 10/10/19	**IATL Sample #:** 6895081
Client Project #:	010-4507		**Client Sample #:** JRM-1009-01
Sample Type:	**AHERA -Philly Regulations**		IATL Grid Box #: 1751
QC Submittal			Grid Archive ID #: Q10R1

Electron Microscope ID:	Filter Dia. (mm): 25	Magnification:	20,000X
	Effective Area (mm): 385		
II Hitachi H600AB, 542-47-7	Filter Type: MCE	Accelerating Voltage:	100KeV
EVEX	Filter Pore Size (µm): 0.45		

Grid Opening:	0.115 mm	Volume of Air Sampled:	1800 Liters
Grid opening Area:	0.013 mm^2		
Grid Openings Read/Required:	4 4	Analytical Sensitivity:	19.2 mm^2
Total Area Analyzed:	0.0520 mm^2	Minimum Detection Limit:	0.0041 s/cc

Total **Asbestos** Structures:	NSD	Non-Asbestos Structures:	NSD
0.5µm - 5.0µm:	NSD		
>5.0µm:			
Asbestos:	< 19.2 s/mm^2	Non-Asbestos:	< 19.2 s/mm^2
Asbestos:	< 0.0041 s/cc	Non-Asbestos:	< 0.0041 s/cc

Analysis Data:

Grid Opening ID	Structure Number	Structure Type F/B/C/M	[1] Length 0.5 -5.0 µm	[2] Length > 5.0 µm	* Chrysotile	**Amphibole	***Non-Asbestos	Micrograph / EDS ID
Q10 E3		NSD						
E4		NSD						
R1 D3		NSD						
D4		NSD						
Total:	NSD	NSD	0	0	0	0	0	

* Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber
Record visible prominent Chrysotile DP reflections (002 ,004, 110, 130, 220, 200)

** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.

*** Characterize by EDS

1, 2 Record Structure Length & Width (µm)

SEE REVERSE: FIBER ORIENTATION MAP

Prep Quality:	
Dissolution	Good
Carbon Film	Good
Loading	3%

Comments:

Analyzed By: J. Jeon

Reviewed By:

IATL International Asbestos Testing Laboratories

TEM Air Sample Worksheet

Client Name:	Synertech Inc.	**Analysis Date:** 10/10/19	**IATL Sample #:** 6895082
Client Project #:	010-4507		**Client Sample #:** JRM-1009-02
Sample Type:	**AHERA -Philly Regulations**		IATL Grid Box #: 1751
QC Submittal			Grid Archive ID #: R3R5

Electron Microscope ID:		Filter Dia. (mm):	25	Magnification:	20,000X
		Effective Area (mm):	385		
II	Hitachi H600AB, 542-47-7	Filter Type:	MCE	Accelerating Voltage:	100KeV
	EVEX	Filter Pore Size (µm):	0.45		

Grid Opening:	0.115 mm	Volume of Air Sampled:	1800 Liters
Grid opening Area:	0.013 mm^2		
Grid Openings Read/Required:	4 4	Analytical Sensitivity:	19.2 mm^2
Total Area Analyzed:	0.0520 mm^2	Minimum Detection Limit:	0.0041 s/cc

Total **Asbestos** Structures:	NSD	Non-Asbestos Structures:	NSD
0.5µm - 5.0µm:	NSD		
>5.0µm:			
Asbestos:	< 19.2 s/mm^2	Non-Asbestos:	< 19.2 s/mm^2
Asbestos:	< 0.0041 s/cc	Non-Asbestos:	< 0.0041 s/cc

Analysis Data:

Grid Opening ID	Structure Number	Structure Type F/B/C/M	[1] Length 0.5 -5.0 µm	[2] Length > 5.0 µm	* Chrysotile	**Amphibole	***Non-Asbestos	Micrograph / EDS ID
R3 F5		NSD						
F6		NSD						
R5 B3		NSD						
B4		NSD						
Total:	NSD	NSD	0	0	0	0	0	

* Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber
Record visible prominent Chrysotile DP reflections (002 ,004, 110, 130, 220, 200)

** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.

*** Characterize by EDS

1, 2 Record Structure Length & Width (µm)

SEE REVERSE: FIBER ORIENTATION MAP

Prep Quality:	
Dissolution	Good
Carbon Film	Good
Loading	3%

Comments:

Analyzed By: J. Jeon

Reviewed By:

IATL International Asbestos Testing Laboratories

TEM Air Sample Worksheet

Client Name: Synertech Inc.
Client Project #: 010-4507
Sample Type: **AHERA -Philly Regulations**
QC Submittal

Analysis Date: 10/10/19

IATL Sample #: 6895083
Client Sample #: JRM-1009-03
IATL Grid Box #: 1751
Grid Archive ID #: R7R9

Electron Microscope ID:
II Hitachi H600AB, 542-47-7
EVEX

Filter Dia. (mm): 25
Effective Area (mm): 385
Filter Type: MCE
Filter Pore Size (µm): 0.45

Magnification: 20,000X
Accelerating Voltage: 100KeV

Grid Opening: 0.115 mm
Grid opening Area: 0.013 mm^2
Grid Openings Read/Required: 4 4
Total Area Analyzed: 0.0520 mm^2

Volume of Air Sampled: 1800 Liters
Analytical Sensitivity: 19.2 mm^2
Minimum Detection Limit: 0.0041 s/cc

Total **Asbestos** Structures: NSD
0.5µm - 5.0µm: NSD
>5.0µm:
Asbestos: < 19.2 s/mm^2
Asbestos: < 0.0041 s/cc

Non-Asbestos Structures: NSD
Non-Asbestos: < 19.2 s/mm^2
Non-Asbestos: < 0.0041 s/cc

Analysis Data:

Grid Opening ID	Structure Number	Structure Type F/B/C/M	[1] Length 0.5 -5.0 µm	[2] Length > 5.0 µm	* Chrysotile	**Amphibole	***Non-Asbestos	Micrograph / EDS ID
R7 G8		NSD						
G9		NSD						
R9 F3		NSD						
F4		NSD						
Total:	NSD	NSD	0	0	0	0	0	

* Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber
Record visible prominent Chrysotile DP reflections (002 ,004, 110, 130, 220, 200)
** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.
*** Characterize by EDS
1, 2 Record Structure Length & Width (µm)

SEE REVERSE: FIBER ORIENTATION MAP

Prep Quality:	
Dissolution	Good
Carbon Film	Fair
Loading	3%

Comments:

Analyzed By: J. Jeon
Reviewed By:

IATL International Asbestos Testing Laboratories

TEM Air Sample Worksheet

Client Name:	Synertech Inc.	**Analysis Date:** 10/10/19	**IATL Sample #:** 6895084
Client Project #:	010-4507		**Client Sample #:** JRM-1009-04
Sample Type:	**AHERA -Philly Regulations**		IATL Grid Box #: 1751
QC Submittal			Grid Archive ID #: S2S4

Electron Microscope ID:		Filter Dia. (mm):	25	Magnification:	20,000X
		Effective Area (mm):	385		
II	Hitachi H600AB, 542-47-7	Filter Type:	MCE	Accelerating Voltage:	100KeV
	EVEX	Filter Pore Size (µm):	0.45		

Grid Opening:	0.115 mm	Volume of Air Sampled:	1800 Liters
Grid opening Area:	0.013 mm^2		
Grid Openings Read/Required:	4 4	Analytical Sensitivity:	19.2 mm^2
Total Area Analyzed:	0.0520 mm^2	Minimum Detection Limit:	0.0041 s/cc

Total **Asbestos** Structures:	NSD	Non-Asbestos Structures:	NSD
0.5µm - 5.0µm:	NSD		
>5.0µm:			
Asbestos:	< 19.2 s/mm^2	Non-Asbestos:	< 19.2 s/mm^2
Asbestos:	< 0.0041 s/cc	Non-Asbestos:	< 0.0041 s/cc

Analysis Data:

Grid Opening ID	Structure Number	Structure Type F/B/C/M	[1] Length 0.5 -5.0 µm	[2] Length > 5.0 µm	* Chrysotile	**Amphibole	***Non-Asbestos	Micrograph / EDS ID
S2 D3		NSD						
D4		NSD						
S4 E4		NSD						
E5		NSD						
Total:	NSD	NSD	0	0	0	0	0	

* Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber
Record visible prominent Chrysotile DP reflections (002 ,004, 110, 130, 220, 200)

** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.

*** Characterize by EDS

1, 2 Record Structure Length & Width (µm)

SEE REVERSE: FIBER ORIENTATION MAP

Prep Quality:	
Dissolution	Good
Carbon Film	Good
Loading	2%

Comments:

Analyzed By: J. Jeon

Reviewed By:

IATL International Asbestos Testing Laboratories

TEM Air Sample Worksheet

Client Name:	Synertech Inc.	**Analysis Date:** 10/10/19	**IATL Sample #:** 6895085
Client Project #:	010-4507		**Client Sample #:** JRM-1009-05
Sample Type:	**AHERA -Philly Regulations**		IATL Grid Box #: 1751
QC Submittal			Grid Archive ID #: S6S8

Electron Microscope ID:		Filter Dia. (mm):	25	Magnification:	20,000X
		Effective Area (mm):	385		
II	Hitachi H600AB, 542-47-7	Filter Type:	MCE	Accelerating Voltage:	100KeV
	EVEX	Filter Pore Size (µm):	0.45		

Grid Opening:	0.115 mm	Volume of Air Sampled:	1800 Liters
Grid opening Area:	0.013 mm^2		
Grid Openings Read/Required:	4 4	Analytical Sensitivity:	19.2 mm^2
Total Area Analyzed:	0.0520 mm^2	Minimum Detection Limit:	0.0041 s/cc

Total **Asbestos** Structures:	NSD	Non-Asbestos Structures:	NSD
0.5µm - 5.0µm:	NSD		
>5.0µm:			
Asbestos:	< 19.2 s/mm^2	Non-Asbestos:	< 19.2 s/mm^2
Asbestos:	< 0.0041 s/cc	Non-Asbestos:	< 0.0041 s/cc

Analysis Data:

Grid Opening ID	Structure Number	Structure Type F/B/C/M	[1] Length 0.5 -5.0 µm	[2] Length > 5.0 µm	* Chrysotile	**Amphibole	***Non-Asbestos	Micrograph / EDS ID
S6 D5		NSD						
D6		NSD						
S8 D4		NSD						
D5		NSD						
Total:	NSD	NSD	0	0	0	0	0	

* Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber
Record visible prominent Chrysotile DP reflections (002 ,004, 110, 130, 220, 200)

** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.

*** Characterize by EDS

1, 2 Record Structure Length & Width (µm)

SEE REVERSE: FIBER ORIENTATION MAP

Prep Quality:	
Dissolution	Good
Carbon Film	Good
Loading	2%

Comments:

Analyzed By: J. Jeon

Reviewed By:

IATL International Asbestos Testing Laboratories

TEM Air Sample Worksheet

Client Name:	Synertech Inc.	**Analysis Date:** 10/10/19	**IATL Sample #:** 6895086
Client Project #:	010-4507		**Client Sample #:** JRM-1009-06
Sample Type:	**AHERA -Philly Regulations**		IATL Grid Box #: 1751
QC Submittal			Grid Archive ID #: S10T1

Electron Microscope ID:		Filter Dia. (mm):	25	Magnification:	20,000X
		Effective Area (mm):	385		
II	Hitachi H600AB, 542-47-7	Filter Type:	MCE	Accelerating Voltage:	100KeV
	EVEX	Filter Pore Size (µm):	0.45		

Grid Opening:	0.115 mm	Volume of Air Sampled:	1800 Liters
Grid opening Area:	0.013 mm^2		
Grid Openings Read/Required:	4 4	Analytical Sensitivity:	19.2 mm^2
Total Area Analyzed:	0.0520 mm^2	Minimum Detection Limit:	0.0041 s/cc

Total **Asbestos** Structures:	NSD	Non-Asbestos Structures:	NSD
0.5µm - 5.0µm:	NSD		
>5.0µm:			
Asbestos:	< 19.2 s/mm^2	Non-Asbestos:	< 19.2 s/mm^2
Asbestos:	< 0.0041 s/cc	Non-Asbestos:	< 0.0041 s/cc

Analysis Data:

Grid Opening ID	Structure Number	Structure Type F/B/C/M	[1] Length 0.5 -5.0 µm	[2] Length > 5.0 µm	* Chrysotile	**Amphibole	***Non-Asbestos	Micrograph / EDS ID
S10 E4		NSD						
E5		NSD						
T1 F3		NSD						
F4		NSD						
Total:	NSD	NSD	0	0	0	0	0	

* Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber
Record visible prominent Chrysotile DP reflections (002 ,004, 110, 130, 220, 200)

** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.

*** Characterize by EDS

1, 2 Record Structure Length & Width (µm)

SEE REVERSE: FIBER ORIENTATION MAP

Prep Quality:	
Dissolution	Good
Carbon Film	Good
Loading	2%

Comments:

Analyzed By: J. Jeon

Reviewed By:

IATL International Asbestos Testing Laboratories

TEM Air Sample Worksheet

Client Name:	Synertech Inc.	**Analysis Date:** 10/10/19	**IATL Sample #:** 6895087
Client Project #:	010-4507		**Client Sample #:** JRM-1009-07
Sample Type:	**AHERA -Philly Regulations**		IATL Grid Box #: 1751
QC Submittal			Grid Archive ID #: T3T5

Electron Microscope ID:		Filter Dia. (mm):	25	Magnification:	20,000X
		Effective Area (mm):	385		
II	Hitachi H600AB, 542-47-7	Filter Type:	MCE	Accelerating Voltage:	100KeV
	EVEX	Filter Pore Size (µm):	0.45		

Grid Opening:	0.115 mm	Volume of Air Sampled:	1800 Liters
Grid opening Area:	0.013 mm^2		
Grid Openings Read/Required:	4 4	Analytical Sensitivity:	19.2 mm^2
Total Area Analyzed:	0.0520 mm^2	Minimum Detection Limit:	0.0041 s/cc

Total **Asbestos** Structures:	NSD	Non-Asbestos Structures:	NSD
0.5µm - 5.0µm:	NSD		
>5.0µm:			
Asbestos:	< 19.2 s/mm^2	Non-Asbestos:	< 19.2 s/mm^2
Asbestos:	< 0.0041 s/cc	Non-Asbestos:	< 0.0041 s/cc

Analysis Data:

Grid Opening ID	Structure Number	Structure Type F/B/C/M	[1] Length 0.5 -5.0 µm	[2] Length > 5.0 µm	* Chrysotile	**Amphibole	***Non-Asbestos	Micrograph / EDS ID
T3 H6		NSD						
H7		NSD						
T5 E1		NSD						
A8		NSD						
Total:	NSD	NSD	0	0	0	0	0	

* Must confirm by Morphology, SAED, and EDXA for each suspect asbestos fiber
Record visible prominent Chrysotile DP reflections (002 ,004, 110, 130, 220, 200)

** Define Amphibole (DP obtained Y/N). Print-out EDS and attach.

*** Characterize by EDS

1, 2 Record Structure Length & Width (µm)

SEE REVERSE: FIBER ORIENTATION MAP

Prep Quality:	
Dissolution	Good
Carbon Film	Fair
Loading	2%

Comments:

Analyzed By: J. Jeon

Reviewed By: