



AIRBORNE ASBESTOS ANALYSIS BY TRANSMISSION ELECTRON MICROSCOPY

CLIENT: Warren & Panzer Engineers, P. C.
LABORATORY ID #: T02-08-055
ANALYT. METHODOLOGY: AHERA
FILTER TYPE: M.C.E.
AVERAGE G.O. AREA (mm²): 0.012422

PROJECT: NYC DEP, 15 John Street
DATE OF REPORT: 08/13/02
DATE OF ANALYSIS: 08/13/02
EFFECTIVE FILTER AREA (mm²): 385

LABORATORY RESULTS

CLIENT #	LAB. ID #	LOCATION	VOLUME (lt)	G.O.'s ANALYZED	AREA ANALYZED (mm ²)	ANALYT. SENSITIV. (struct./cm ³)	TOTAL ASBESTOS AIR CONC. (struct./cm ³)	TOTAL ASBESTOS FILTER CONC. (str./mm ²)	AIR CONC. FOR STRUCT. 0.5≤S<5μm	AIR CONC. FOR STRUCT. S≥5.0μm	ASBEST. TYPE CHRYS.	AMPHIB. ASBEST TYPE SPECIFY
01	T02-08-055-1479	On adjacent roof right	1650	4	0.0497	0.0047	<0.0047	<20.13	NA	NA	NA	NA
02	T02-08-055-1480	On adjacent roof center	1650	4	0.0497	0.0047	<0.0047	<20.13	NA	NA	NA	NA
03	T02-08-055-1481	On adjacent roof left	1650	4	0.0497	0.0047	<0.0047	<20.13	NA	NA	NA	NA
04	T02-08-055-1482	On adjacent roof by ledge	1650	4	0.0497	0.0047	<0.0047	<20.13	NA	NA	NA	NA
05	T02-08-055-1483	On adjacent roof 10ft. from ledge	1650	4	0.0497	0.0047	<0.0047	<20.13	NA	NA	NA	NA

ANALYST
E. Sioukri

LABORATORY DIRECTOR
Spiro Dongaris

LABORATORY CERTIFICATION NUMBERS: NVLAP 101958, ELAP 10955

- Athenica Environmental Services Inc. (AES), is responsible only for information pertaining to samples taken by its employees.
- Air sampling cassettes will be stored for sixty (60) days. AES Inc., should be notified within this time frame for a true duplicate analysis.
- If AES Inc., did not conduct the sampling, the reported airborne concentration was derived based on information provided by the client. Under these circumstances, the air concentration data is supplied solely for the convenience of the client.
- The report relates only to items tested. This report must not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government. Test reports may not be reproduced except in full and with prior approval of AES Inc.
- The liability of Athenica Environmental Services Inc. with respect to the services charged, shall in no event exceed the amount of the invoice.

Tel. (718) 784-7490
Fax (718) 784-4085

CLIENT: Warren & Panzer	DATE: 8/13/02
PROJECT: NYCDEP/ 15 John Street	ANALYST: E-S.
BATCH #: T02-08-055	CLIENT ID #: 01
SAMPLE ID #: T02-08-055-1479	VOLUME (lt): 1650
G.O. AREA (mm ²): 0.012422	GO's TO ANALYZE: 4
MAGNIFICATION: 194	ACC. VOLTAGE (KeV): 100
INSTRUMENT: JEOL 100CX II	FILTER AREA (mm ²): 385
ANALYTICAL METHODOLOGY: EPA FEDERAL REGISTER, VOL. 52, No 210, OCT. 30, 1987, #40 CFR, PART 763, APPENDIX A TO SUBPART E	

[illegible]

Analytical Sensitivity (str/cm ³):	0.0047	Eucentricity check:	
Concentration (str/cm ³):	40.0047	*Grid acceptance criteria check:	(A).... (B)....
Concentration (str/mm ²):	420.13	**CHR. # STRUCT.:	F M C B
Number of Asbestos Structures:	0.5 ≤ S < 5 μm .. 0..	**AMPH. # STRUCT.:	F M C B
	S ≥ 5 μm 0..	Specify AMPH. Type:	AM. ACT. TRE.
Number of Non-asbestos Structures:	 0..	CRO. ANTH.	

** CHR.=chrysotile, AMPH.=amphibole, AM.=amosite, ACT.=actinolite, TRE.=tremolite, CRO.=crocidolite, ANTH.=anthophyllite.



ATHENICA

ENVIRONMENTAL SERVICES INC.

45-09 Greenpoint Avenue
Long Island City, N.Y. 11104

TEM DEPARTMENT

Tel. (718) 784-7490
Fax (718) 784-4085

TEM AHERA COUNTSHEET

CLIENT: <i>Warren & Panzer</i>	DATE: <i>8/13/02</i>
PROJECT: <i>NYCDEP/ 15 John Street</i>	ANALYST: <i>E.S.</i>
BATCH #: <i>T02-08-055</i>	CLIENT ID #: <i>02</i>
SAMPLE ID #: <i>T02-08-055-1490</i>	VOLUME (lt): <i>1650</i>
G.O. AREA (mm ²): <i>0.012422</i>	GO's TO ANALYZE: <i>4</i>
MAGNIFICATION: <i>194</i>	ACC. VOLTAGE (KeV): <i>100</i>
INSTRUMENT: <i>JEOL 100CX II</i>	FILTER AREA (mm ²): <i>385</i>
ANALYTICAL METHODOLOGY: EPA FEDERAL REGISTER, VOL. 52, No 210, OCT. 30, 1987, #40 CFR, PART 763, APPENDIX A TO SUBPART E	

GRI D	GO ID	Str. #	Str. Classf.	L (µm)	W (µm)	Structure sketch	SAE D	EDXA	PHO TO#	ID
A	H3	NSD								
	07	NSD								
B	I4	NSD								
	D6	NSD								

Analytical Sensitivity (str/cm ³): <i>0.0047</i>	Eucentricity check:
Concentration (str/cm ³): <i>< 0.0047</i>	*Grid acceptance criteria check: (A) <i>✓</i> (B) <i>✓</i>
Concentration (str/mm ²): <i>< 20.13</i>	**CHR. # STRUCT.: F M C B
Number of Asbestos Structures: <i>0.5 ≤ S < 5µm ... 0.</i>	**AMPH. # STRUCT.: F M C B
<i>S ≥ 5µm ... 0.</i>	Specify AMPH. Type: AM. ACT. TRE.
Number of Non-asbestos Structures: <i>0.</i>	CRO. ANTH.

*Replica covers >50%, at least 20 GO's with no overlapping or folded replica, intact GO's have >50% coverage, <50% Undissolved filter, <5% holes or opaque areas, <10% particulate coverage.

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TEM AHERA COUNTSHEET

CLIENT: Warren & Panzer	DATE: 8/13/02
PROJECT: NYCDEP/ 15 John Street	ANALYST: E.S.
BATCH #: T02-08-055	CLIENT ID #: 03
SAMPLE ID #: T02-08-055-1491	VOLUME (lt): 1650
G.O. AREA (mm ²): 0.012422	GO's TO ANALYZE: 4
MAGNIFICATION: 194	ACC. VOLTAGE (KeV): 100
INSTRUMENT: JEOL 100CX II	FILTER AREA (mm ²): 385
ANALYTICAL METHODOLOGY: EPA FEDERAL REGISTER, VOL. 52, No 210, OCT. 30, 1987, #40 CFR, PART 763, APPENDIX A TO SUBPART E	

[illegible]

Analytical Sensitivity (str/cm ²):	0.0047	Eucentricity check:	
Concentration (str/cm ²):	40.0047	*Grid acceptance criteria check:	(A).....(B).....
Concentration (str/mm ²):	420.13	**CHR. # STRUCT.:	F M C B
Number of Asbestos Structures:	0.5 ≤ S < 5 μm ... 0.	**AMPH. # STRUCT.:	F M C B
	S ≥ 5 μm 0.	Specify AMPH. Type:	AM. ACT. TRE.
Number of Non-asbestos Structures:	 0.	CRO. ANTH.	

*Replica covers >50%, at least 20 GO's with no overlapping or folded replica, intact GO's have >50% coverage, <50% Undissolved filter, <5% holes or opaque areas, <10% particulate coverage.

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CLIENT: Warren & Panzer	DATE: 8/13/02
PROJECT: NYCDEP/ 15 John Street	ANALYST: E.S.
BATCH #: T02-08-055	CLIENT ID #: 04
SAMPLE ID #: T02-08-055-1432	VOLUME (lt): 1650
G.O. AREA (mm ²): 0.012422	GO's TO ANALYZE: 4
MAGNIFICATION: 194	ACC. VOLTAGE (KeV): 100
INSTRUMENT: JEOL 100CX II	FILTER AREA (mm ²): 385
ANALYTICAL METHODOLOGY: EPA FEDERAL REGISTER, VOL. 52, No 210, OCT. 30, 1987, #40 CFR, PART 763, APPENDIX A TO SUBPART E	

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Analytical Sensitivity (str/cm ²):	0.0047	Eucentricity check :	
Concentration (str/cm ²):	60.0047	*Grid acceptance criteria check :	(A).../ (B)...
Concentration (str/mm ²):	620.13	**CHR. # STRUCT.:	F M C B
Number of Asbestos Structures :	0.5 ≤ S < 5 μm ... 0.	**AMPH. # STRUCT.:	F M C B
	S ≥ 5 μm 0.	Specify AMPH. Type :	AM. ACT. TRE.
Number of Non-asbestos Structures:	 0.	CRO. ANTH.	

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PROJECT: <i>NYCDEP/ 15 John Street</i>	ANALYST: <i>E.S.</i>
BATCH #: <i>T02-08-055</i>	CLIENT ID #: <i>05</i>
SAMPLE ID #: <i>T02-08-055-1483</i>	VOLUME (lt): <i>1650</i>
G.O. AREA (mm ²): <i>0.012422</i>	GO's TO ANALYZE: <i>4</i>
MAGNIFICATION: <i>194</i>	ACC. VOLTAGE (KeV): <i>100</i>
INSTRUMENT: <i>JEOL 100CX II</i>	FILTER AREA (mm ²): <i>385</i>
ANALYTICAL METHODOLOGY: EPA FEDERAL REGISTER, VOL. 52, No 210, OCT. 30, 1987, #40 CFR, PART 763, APPENDIX A TO SUBPART E	

GRI D	GO ID	Str. #	Str. Classf.	L (μm)	W (μm)	Structure sketch	SAE D	EDXA	PHO TO#	ID
<i>B</i>	<i>C4</i>	<i>NSD</i>								
	<i>H2</i>	<i>NSD</i>								
<i>A</i>	<i>F6</i>	<i>NSD</i>								
	<i>B8</i>	<i>NSD</i>								

Analytical Sensitivity (str/cm ²): <i>0.0047</i>	Eucentricity check:
Concentration (str/cm ²): <i>< 0.0047</i>	*Grid acceptance criteria check: (A) <i>✓</i> (B) <i>✓</i>
Concentration (str/mm ²): <i>< 20.13</i>	**CHR. # STRUCT.: F M C B
Number of Asbestos Structures: <i>0.5 ≤ S < 5 μm ... 0.</i>	**AMPH. # STRUCT.: F M C B
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