



AIRBORNE ASBESTOS ANALYSIS BY TRANSMISSION ELECTRON MICROSCOPY

CLIENT: Warren & Panzer Engineers, P.C.
LABORATORY ID #: T02-10-119
ANALYT. METHODOLOGY: AHERA
FILTER TYPE: M.C.E.
AVERAGE G.O. AREA (mm²): 0.013838

PROJECT: NYC DEP, 55 John Street 16th Floor
DATE OF REPORT: 10/19/02
DATE OF ANALYSIS: 10/19/02
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. (struc./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	T02-10-119-3282	16 fl. hallway	1800	4	0.0554	0.0039	<0.0039	<18.07	NA	NA	NA	NA
02	T02-10-119-3283	16 fl. east side office	1800	4	0.0554	0.0039	<0.0039	<18.07	NA	NA	NA	NA
03	T02-10-119-3284	16 fl. west side office	1800	4	0.0554	0.0039	<0.0039	<18.07	NA	NA	NA	NA
04	T02-10-119-3285	16 fl. north side office	1800	4	0.0554	0.0039	<0.0039	<18.07	NA	NA	NA	NA
05	T02-10-119-3286	16 fl. south side office	1800	4	0.0554	0.0039	<0.0039	<18.07	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.

ENVIRONMENTAL SERVICES INC.

Tel. (718) 764-7490
Fax (718) 764-4085

TEM AHERA COUNTSHEET

CLIENT : WARREN & RANZER	DATE : 10/19/02
PROJECT : NYC DEP/55 JOHN ST.	ANALYST : E.S.
BATCH # : T02-10-119	CLIENT ID # : 01
SAMPLE ID # : ~~001~~ T02-10-119-3282	VOLUME (lt) : 1800
G.O. AREA (mm ²) : 0.013838	GO's TO ANALYZE : 4
MAGNIFICATION : 19K	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): 0.0039	Eucentricity check :
Concentration (str/cm ³): <0.0039	*Grid acceptance criteria check : (A)... (B)....
Concentration (str/mm ³): <18.07	**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

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TEM AHERA COUNTSHEET

[illegible]

Analytical Sensitivity (str/cm ²): 0.0039	Eucentricity check :
Concentration (str/cm ²): <0.0039	*Grid acceptance criteria check : (A)..... (B).....
Concentration (str/mm ²): <18.07	**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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TEM AHERA COUNTSHEET

[illegible]

*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 : 10/19/02
PROJECT : NYC DEP / 55 JOHN ST.	ANALYST : E.S.
BATCH # : T02-10-119	CLIENT ID # : 04
SAMPLE ID # : ~~001~~ T02-10-119-3285	VOLUME (lt) : 1800
G.O. AREA (mm²) : 0.013838	GO's TO ANALYZE : 4
MAGNIFICATION : 19K	ACC. VOLTAGE (KeV) : 100
INSTRUMENT : JEOL 100CX II	FILTER AREA (mm²) : 385
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	E6	NSD								
	H4	NSD								
B	F5	NSD								
	E7	NSD								

Analytical Sensitivity (str/cm ²): 0.0039	Eucentricity check : ☒ (A) ☒ (B)
Concentration (str/cm ²): <0.0039	*Grid acceptance criteria check : (A)..... (B).....
Concentration (str/mm ²): <18.07	**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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TEM AHERA COUNTSHEET

CLIENT : <u>WARREN & PANZER</u>	DATE : <u>10/19/02</u>
PROJECT : <u>NYC DEP / 55 JOHN ST.</u>	ANALYST : <u>E.S.</u>
BATCH # : <u>T02-10-119</u>	CLIENT ID # : <u>05</u>
SAMPLE ID # : <u>~~T02-10-119-3286~~</u>	VOLUME (lt) : <u>1800</u>
G.O. AREA (mm ²) : <u>0.013838</u>	GO's TO ANALYZE : <u>4</u>
MAGNIFICATION : <u>19K</u>	ACC. VOLTAGE (KeV) : <u>100</u>
INSTRUMENT : <u>JEOL 100CX II</u>	FILTER AREA (mm ²) : <u>385</u>
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
B	D4	N5D								
	G6	N5D								
A	C8	N5D								
	H5	N5D								

Analytical Sensitivity (str/cm ³): <u>0.0039</u>	Eucentricity check :
Concentration (str/cm ³): <u>20-0039</u>	*Grid acceptance criteria check : (A) ☒ (B) ☒
Concentration (str/mm ²): <u>218.07</u>	**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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